

ROLES OF THE PROFESSOR IN THE PAST, PRESENT AND IN THE FUTURE

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7.1 Background

1. The 'Roles of the Professor' Task Force has been established at IMU to conduct interviews with distinguished professors in Malaysia and Singapore thereby generating insights to guide the activities of the IMU Professoriate. The detailed remit is reproduced in Appendix One. An earlier paper prepared for Senate has been a valuable resource for the Task Force.
2. Structured interviews with four key questions were conducted. Seven external professors and two IMU professors were each interviewed by two or more members of the Task Force. Biosketches and photographs of the interviewees are given in Appendix Two.
3. Task Force members held several meetings to discuss matters relevant to the production of this report. Topics discussed included: ideas regarding the origins of professorial roles; a system for collation and analysis of the interview responses; and some suggestions about the most effective choices of roles of the Professoriate at the IMU in the future.
4. Question One was designed to be an 'ice breaker' by asking about initial achievements upon becoming a professor. Unsurprisingly it produced widely varying responses. However the interviewees were unanimous in regarding conferment of a professorship as carrying an early obligation to use the prestige to bring about a tangible contribution to society.
5. Question Two was a five-part question regarding the important roles of a professor. Whilst there were differences in prioritisation, marked agreement was seen on what the five qualities should be. Teaching and research excellence were highly regarded, as were international reputation, communication skills and advancement of the speciality.
6. Question Three addressed roles of the professor which would be of increased importance in the future. The responses in general did not break new ground but tended to reinforce the roles identified in the answers to Question Two, with international reputation being stronger emphasis. Also community profile and contributions together with leadership and mentorship, were regarded as becoming increasingly important in future.
7. Question Four asked about roles needed of professors in Malaysia to enable the country to meet international competitive challenges. Many of the interviewees mentioned the pressing need to have more academic leadership of international standards with those professors also being capable of communicating their ideas within the national setting.
8. Inspection of the responses showed that identified roles or qualities could be placed in two groups. One group were front-line roles, the other group, inherent qualities; these are subsequently used in this report as the basis for analysis and recommendations.
9. The material was subjected to a simple weighting analysis to reveal trends. In summary, that gave the top five roles needed currently, (Question Two), as:

1. Research Excellence and Innovation	41 points
2. Teaching Excellence and Innovation	33 points
3. International Reputation	15 points
3. Communication Skills and Networking	15 points
5. Advancement of Speciality	14 points

Front Line Roles	Teaching Excellence and Innovation Research Excellence and Innovation Speciality Service Delivery Organisational Activity Separate from Above Advancement of Speciality
Inherent Qualities	Leadership, Mentorship and Adaptability High Ethical Standards Communication Skills and Networking Community Profile and Contributions International Reputation

10. It was considered that in the future the above roles would continue to be important (Question Three), but additionally, two roles would have increased relevance. These were:

1. International Reputation 29 points
2. Community Profile and Contributions 14 points

11. A notable absentee from the highest rankings was Special Service Delivery. That will attract the attention of those whose academic calling is in the area of healthcare delivery, especially at a medical university like the IMU, and who will rightly believe that quality needs some sort of emphasis in roles of a professor for such individuals. This important matter merits special discussion and that is done in the conclusions section of this report.

12. For a reality check of the findings from the interviews the Task Force investigated the origins of the term 'professor' and the roles undertaken by some scholarly figures in history. To enable further discussion the findings have been summarised in a table entitled 'The Stripped-Down Professor' reflecting the historical view. To allow comparison, the features of 'The Macfarlane Professor' proposed in the Senate Paper are shown in a similar table.

13. The document concludes with suggestions for further investigations and activities regarding this important and interesting topic. Also some initial conclusions the authors have drawn from the findings, including those concerning members of professional groups like clinicians, are briefly discussed with regard to their relevance to IMU and Malaysia.

7. 2. The Questions and the Interviewee's Responses

1. Question One: Having been appointed a Professor what do you regard as having been your first significant achievement in that role?
2. This was designed to be an 'ice breaker' by asking about major achievements upon becoming a professor. Unsurprisingly it produced widely varying responses. However the interviewees were unanimous in regarding conferment of a professorship as carrying an early obligation to use the prestige to bring about a tangible contribution to society.
3. Question Two: List five important qualities that should be observed in all Professors and those applying for the position?

4. Question Two was a five-part question regarding the important qualities of a professor. Whilst there were differences in prioritisation, marked agreement was seen on what the five qualities should be. Teaching and research excellence were highly regarded, as were international reputation, communication skills and advancement of the speciality.
5. Question Three: From the changes you have noted in higher education globally, what are the issues that would be relevant to the appointment of professors and the roles of professors in future, locally, regionally and globally?
6. Question Three addressed the roles of the professor in the future. The responses in general did not break new ground but tended to reinforce the qualities identified in the answers to Question Two, especially international reputation. However community profile and contributions together with leadership and mentorship, became quite prominent.
7. Question Four: What are the challenges facing Malaysian Universities and Malaysian Professors striving to be on par with top international institutions?
8. This question asked about qualities needed of professors in Malaysia to meet international competitive challenges. Many of the interviewees mentioned the pressing need to produce academic leaders of international standards capable of communicating their ideas within the local setting.
9. The detailed responses are shown below.

Question 1: Having been appointed a Professor what do you regard as having been your first significant achievement in that role?

A. *Tan Sri Dato' Dr Syed Jalaludin Bin Syed Salim*

My initial achievements as a Professor had their roots much earlier when I realised I had to be academically pro-active despite being still a lecturer. An early success was getting a research student upgraded to a PhD, (a big deal in those days). Senior colleagues noticed how I did that and began to approach me about my becoming Dean. So I became a Dean before being conferred with a Professorship. When that came later at UPM I found the prestige made me a person who had to accept national roles in the forming of regulatory frameworks constructed for agriculture and veterinary science in Malaysia.

B. *Tan Sri Dato' Professor Augustine Ong*

Having had a background in the study of free-radicals it was suggested to me that I use the opportunity of a new post with the promise of a professorship to establish a new area of study. That was done by establishing a multi-disciplinary group to work on palm oil in all its aspects, including championing its benefits e.g. to major bodies like the US FDA.

C. *Tan Sri Dato' Professor Dr Sharifah Hapsah Syed Hasan Shahabudin*

Initially working in Physiology in the area of cardiovascular research and exercise physiology, I was able to promote exercise programmes to the police force to improve their health lifestyle. Then moving on to medical education brought in ideas for CME credits for renewal of practitioner registrations.

These experiences illustrate a need for the professor to do research leading to them becoming known as academics, but also using the work to benefit people.

D. Professor Dato' Dr Mahmud Mohd Nor

Becoming a professor meant being available to take a leadership role in establishing a local programme for the training of surgeons. The effort began in 1981 and has been on-going since then mainly because of the large number of stakeholders.

The matter was at cabinet level at certain points and that allowed UKM to pioneer some features of the training. A significant point was that a research component was included in the proposed local training scheme.

Gratifyingly, a supreme Conjoint Board has recently been established with the agreement of government and representation of appropriate bodies which provides all aspects of the training and its assessment.

E. Professor Dato' Dr Khalid Abdul Kadir

I became a Professor and the Dean of Medicine at UKM at the same time. I was able to change the 6-year MBBS Curriculum to a 5-year one aligned to international standards. Also I established Internal Medicine as a national programme, a degree of Master of Medicine in Paediatrics, and promoted a higher status for Family Medicine. Later I became Foundation Professor of Monash University establishing the Johor Clinical School.

F. Professor Emeritus Tan Sri Dato' Dr Zakri Abdul Hamid

My background is in plant genetics with my PhD obtained from the University of Michigan in 1976.

On return to Malaysia, I directed my research towards producing high-yielding pathology-resistant tropical crops, for example soya beans. Eventually work in that field led to me becoming Secretary General of SABRAO, the Society for the Advancement of Breeding Research in Asia and Oceania.

Local, regional and international advisory and committee roles have continued throughout my career, and I will refer to some aspects of those activities later in the interview. Currently I am Chair of the National Professors' Council in Malaysia and that is a good position for me to make comments on your topic.

G. Professor Tan Eng Chye

The requirements for promotion to full professor and for tenure are very high at the National University of Singapore. The proportion of full professors in tenure track faculty is about 15%. There is not really a revelatory moment here when one becomes a full professor. That moment comes within the period of associate professorship as one strives for the full substantive post. As such, I cannot identify one achievement ahead of a number of others.

H. Professor Victor Lim

I was appointed Professor at the age of 39 years. As a young and enthusiastic new professor I would consider my most significant achievement was to play a lead role in the establishment and implementation of a new medical curriculum at Universiti Kebangsaan Malaysia. It required a systematic approach, much diplomacy and the support of top management.

I. *Professor Mak Joon Wah*

It was having opportunities for regular contact with graduate students so I could mentor and inspire them on a regular basis. (Undergraduate students should be mentored by other staff). In particular to stimulate them to apply critical thinking processes to their researches and other academic matters. In such roles professors must be passionate, not reserved. To be able to function effectively in that way, professors must of course have demonstrable mastery of the core knowledge of their chosen field.

Question 2: List five important qualities that should be observed in all Professors and those applying for the position?

A. *Tan Sri Dato' Dr Syed Jalaludin Bin Syed Salim*

- a. Acceptance by peers in their speciality for having advanced it in some significant way. The area can be narrow, but the advancement must be to highest standards.
- b. *Dynamic and effective leadership in research supervision:* so that others can carry on the work of advancing that and similar or cognate specialities.
- c. The ability to network and interact with other professors and senior colleagues rather than choosing to be reserved and withdrawn regarding their academic calling.
- d. Regularly publish research results in critically reviewed journals. In the case of distinguished clinicians a similar expectation of case studies with interesting content.

- e. Meet the expectations of the community with regards to Professors and strive to be a person of high calibre with a presence nationally and internationally in their subject.

B. *Tan Sri Dato' Professor Augustine Ong*

- a. Above all original thinking should be evident, not just repetition of earlier knowledge. An example from palm oil research is the idea that it is the position of the saturated fat chain in the triglyceride molecule which determines blood cholesterol effects.
- b. A capability to conceptualise or synthesise new ideas in such a way as that above so these can be used to communicate discoveries to others and stimulate the desire for further investigation.
- c. A flair for managing and enthusing staff to want to do academic work because they are stimulated by the possibilities rather than pressuring or dominating them. In particular have regular contact, daily or more with supervised research students.
- d. Have a wide range of interests and curiosities, bringing those to bear on problems of the community and their solution by scholarly and organisational methods. Note that in addition to being altruistic, such activities often lead to legitimate self-benefit.
- e. Be passionate about academic activity and research, and use that to drive the teaching and administrative requirements of the professorial role, for which there will always be difficulties in finding the necessary time.

C. *Tan Sri Dato' Professor Dr Sharifah Hapsah Syed Hasan Shahabudin*

- a. Must have shown ability in both teaching and research but then can choose to major in one or the other. In each case the work done should have practical utility.
- b. Have to be adaptable and flexible so as to be able to respond to challenges which may arise. Note that there may be a requirement to change direction but whatever is done must be of excellence academically.
- c. Upon appointment professors should be expected to spend 70% of their time conducting high quality research. Subsequently that can be reduced if they wish, the time being made available being used for other academic and academic-related purposes.
- d. If research is pursued then there should be a capability to generate a good flow of high quality research papers in international journals.
- e. If teaching is being pursued a substantial proportion of that effort by those of professorial rank should be directed towards the teaching and mentoring of postgraduate students.

D. *Professor Dato' Dr Mahmud Mohd Nor*

- a. The professor must be a champion and expert of an area of academic expertise which can be 'professed'. The expertise should be evidence-based and referenced against criteria.
- b. Teaching is an important function and there should be passion for that activity. Newly appointed

professors should be required to give a public inaugural lecture to introduce their academic area to faculty and the wider audience.

- c. Research activity of a very high standard must have been demonstrated prior to appointment. It must continue at a productive level to pass above internal bars, and it should be of the top international standard to clear the upper-most bar.
- d. The individual should excel in the service aspects of the chosen speciality, particularly in the case of a clinician.
- e. The individual should be active in the administration and development of his or her professional group and also contribute to the community in an appropriate way.

E. *Professor Dato' Dr Khalid Abdul Kadir*

- a. Be acknowledged by peers as among the best in their field by virtue of a) publications, b) for clinicians, clinical acumen and c) research as determined by publications and KPIs. Be at least three years post achievement of PhD.
- b. Have qualities necessary for excellent teaching, using an evidence based-approach and achieving high levels of confidence among the students taught.
- c. Be able to set standards in their chosen field of academia, as necessary for peer review and for international recognition as well as gaining appropriate research funding.
- d. Be able to effectively mentor and supervise doctoral students studying and research for the

award of the PhD degree with evident success in that area.

- e. Show leadership in the relevant professional body and by that and similar means make significant contributions to the community.

F. Professor Emeritus Tan Sri Dato' Dr Zakri Abdul Hamid

- a. Candidates for professorship must show excellence in research with publications in peer reviewed international journals. Universities in Malaysia have that as common practice, seeking confirmation by local and international referees of distinction to approve appointments to professorial level.
- b. No less important is a high level of teaching ability which should be inspired by the individuals own academic work otherwise there is nothing to differentiate the professor from a gifted school teacher or a lecturer at a purely teaching college.
- c. Strength in academic networking is extremely important, with involvement in organising conferences a useful entry point when it is at local level initially, but it should then broaden out to regional and international activity. Personal contacts arising from such work are very valuable.
- d. There should be a consistent pattern of presentations at conferences again ascending through the levels of local, regional and international events. An interesting development in that regard are some international bodies in which I have played some roles which are well suited to Malaysian academics, including the Third World Academy of Sciences or, THWAOS, and the Islamic World Academy of Sciences. Each have a number of Nobel Laureates in their ranks.

- e. Although some very distinguished academics are disdainful of the need for any practical relevance in their work, most members of the scholarly community would consider that professorial activity should make a contribution to the well-being of society. For example some social scientists might work on national unity, healthcare professionals on preventing Ebola-type outbreaks and so on. A guideline would be 5% – 10% of time should be used in that way.

G. Professor Tan Eng Chye

- a. A balanced awareness of the equal importance of both research and teaching, coupled with a very superior level of accomplishment in one, and quite a high level in the other.
- b. Strong in independent thought and action, that is, a leader and not a follower. This involves 'thought leadership' in contradistinction to 'academic leadership' (see below). 'Thought leadership' comprises both capability and perseverance to continuously break new ground as a researcher, or as a teacher.
- c. Integrity - as demonstrated by some unfortunate examples which are coming to light from around the world, - is an essential quality for all academic staff.
- d. 'Academic leadership' which refers to the administrative capabilities of an individual. This can be demonstrated, for example, in terms of introducing new procedures to improve university operations, or successfully taking on the role of a head of department or a dean. This quality is hard to find. At NUS, heads and deans are appointed,

never elected, and very often, we also look for qualified candidates from around the world.

- e. Service excellence – In some fields, there is a need to give due recognition to excellent service. This is most evident in extended clinical training which has to be undertaken in medicine and dentistry.

While ‘super research’ may compensate for some weakness in teaching achievement, and occasionally ‘extremely super teaching’ may compensate for weak research achievement, ‘super service’ can never compensate for weak research and weak teaching achievement.

In this regard, academics in medicine and dentistry who aspire to achieve full professorship at NUS can be on one of three tracks, i) the regular track, which is similar to that for all other academics, ii) a clinician-scholar track where less time is devoted to research and iii) a clinician-scientist track.

H. Professor Victor Lim

- a. An enthusiasm for teaching with evidence of being abreast with best practices in learning and assessment as well as commitment to teaching scholarship. A scientific approach to teaching and learning should be apparent.
- b. An acceptable record of participation in research and publications. However for good and dedicated teachers, research does not need to be at world-class level for a professorship.
- c. Recognition both nationally and regionally as an expert in one’s field of specialisation. That is particularly the case for clinical academics.

- d. Plays a prominent role in developing standards of one’s discipline/speciality in the country.

- e. Plays an active role in community service.

I. Professor Mak Joon Wah

- a. To be able to teach effectively and to stimulate discussion. To demonstrate the qualities of humanity and professionalism while undertaking such tasks.
- b. To be actively researching in the area in which they are teaching, with the motivation that scientific enquiry is both a pleasure and an obligation.
- c. To be a role model and display high ethical standards. Explain the application of appropriate values and standards to their calling.
- d. Be an advocate and reference point for their subject. Keep themselves up-to-date with developments. Make themselves readily available to provide advice in that area.
- e. Be able to synthesise and integrate information from their chosen subject to provide new insights and paths for future development.

Question 3: From the changes you have noted in higher education globally, what are the issues that would be relevant to the appointment of professors and the roles of professors in future, locally, regionally and globally?

A. Tan Sri Dato’ Dr Syed Jalaludin Bin Syed Salim

Standards expected for the appointment to a professorship have not changed. Those so appointed

must be of the same standards as in the best institutions worldwide.. Similarly, internal promotions to professorships must involve several international assessors. These are necessary safeguards for an institution which wishes to gain and retain international respect. Note that anyone can quickly establish the qualifications of a professor on the internet.

B. Tan Sri Dato' Professor Augustine Ong

- a. Candidates should be excellent in scholarly research leading them to being regarded as an expert in their area, especially finding solutions to local and regional problems.
- b. Scholars who one day will exceed the current expectations of a professor should be particularly nurtured and given the chance of advancement.
- c. Individuals should keep in touch globally, for example some Japanese scholars ensure that they travel to meet academic colleagues at least every two years.

C. Tan Sri Dato' Professor Dr Sharifah Hapsah Syed Hasan Shahabudin

At the present time with the expansion of higher education in the country there is a need for more professors to provide leadership and mentoring. A solution for the present is to have three levels within the professorially grade. C is basic and B is only reached after solid research performance. Books can count as equivalent to research articles. A is only reached with external international assessment and many citations of published work.

The title should be reserved for academic merit as above to maintain international credibility. The grade of clinical professor should be discontinued. Alternate titles for individuals of distinction in other fields entering universities include Fellow and Senior Fellow.

D. Professor Dato' Dr Mahmud Mohd Nor

The role of the professor is changing from someone who carries out their scholarly functions in isolation to that of a person with the skills to collaborate meaningfully with other colleagues especially those in other universities.

The vision has got to be of a borderless world from the academic viewpoint and one where the information technology dimension of activity is very important.

E. Professor Dato' Dr Khalid Abdul Kadir

There is good reason to think that Malaysia has not set its standards correctly for Professorships and also not implemented the international standards followed by Western nations and Australia.

F. Professor Emeritus Tan Sri Dato' Dr Zakri Abdul Hamid

A main issue for the appointment of professors in future is possession of high ethical standards which will direct the individual towards work of relevance and innovation. Such a view should be captured in the rubric defining professorial roles. A second issue here in Malaysia is of course 'league' tables. The requirements for those who will aspire to professorships in a few years' time could be developed so their preparatory work could address league table requirements.

G. Professor Tan Eng Chye

- i) The trajectory of quality and quantity of research of a candidate has to be assessed. If it is considered that research has peaked then an appointment would not be made on the basis of past performance. The candidate should be capable of achieving substantial breakthroughs in the future.
- ii) It is essential to use external reviewers who must be from universities which are peers of the best universities worldwide, and have achieved excellence themselves.
- iii) Salaries offered must be globally competitive and if there are budgetary limitations, the number of full professor positions available should be reduced to meet or maintain that level of remuneration.
- iv) Localisation, i.e. preferential appointment of those who are citizens of the country or those living in a locale, cannot be practiced if international excellence is to be achieved, and the reasons for that have to be carefully explained to the public and justified.

In NUS, steps are taken to nurture local academics and many of them have demonstrated great potential during the open and competitive search process. The University sends talented local students to pursue PhD studies in top research centres around the world and they form a pipeline of young academics who can contribute to the university community when they complete their studies. Based on our experience, Singaporeans do perform credibly in recruitment and promotion exercises.

Furthermore, the University searches worldwide to identify Singaporeans who have achieved full

professorships at peer institutions and we try to persuade them to return to contribute to the academic and research community in Singapore.

H. Professor Victor Lim

Professors would have to be leaders of, and contributors to, society, and be able to influence national policies and be champions of social justice.

They will also be leaders of education and lead changes in the education system not just at tertiary level but also in schools. It is particularly important they are involved in innovation.

They should be role models for their younger colleagues and play the role of active mentors.

They should be producers of useful knowledge that will improve the wellbeing of the community and not indulge in research just for the purpose of producing publications.

Institutions needing to retain and recruit good teachers who may not reach international standards for professorship have a problem. However they should try to alleviate that by the following strategies:

- a. Decouple salary from the title in selected situations giving a higher salary than is merited by the level of academic appointment.
- b. In medical universities use the title of Clinical Professor for able clinicians who do not rise to higher requirements of academia for research activities and teaching innovation.

- c. Use the title of Adjunct Professor for those who have been successful in their careers outside of academia and wish to transfer to university life on a part-time or full-time basis.

I. *Professor Mak Joon Wah*

Within the University the professor must be visible, participating fully in both academic and extra-curricular activities. At national level endeavour to gain membership of national committees which supply informed advice to policy makers. At all levels seek to have a presence on the internet, not just to project personality, but to contribute to thinking in one's subject area. Aim to demonstrate membership of international network(s).

Question 4: What are the challenges facing Malaysian Universities and Malaysian Professors striving to be on par with top international institutions?

A. *Tan Sri Dato' Dr Syed Jalaludin Bin Syed Salim*

The quality of academic leadership which will come forward in the future is the crucial issue. Those aspiring must have advanced their subject, publish the results and have been accepted as a leader in that area internationally. With that as core they should then display the related qualities of inspired academic leadership and management to develop their institutions.

B. *Tan Sri Dato' Professor Augustine Ong*

- a. Getting the very best academic leadership, including from that available on a worldwide basis
- b. Ensuring that real talent is properly recognised and getting societal and government support for that

- c. Making sure that the requirements of a professor are properly balanced with the saying 'think global, act local' being born in mind.

C. *Tan Sri Dato' Professor Dr Sharifah Hapsah Syed Hasan Shahabudin*

There is pressure on funding from government especially for operating costs. Some politicians are sceptical about the benefits gained from funds for universities. Governments are more responsive to requests for funding for developments.

Professors in times past could work alone but now they must become centres of activity of talented individuals who they inspire and guide. The team members should align their activities with the themes of the research group they are assigned to so that excellence is achieved in that area and gains international recognition.

Succession planning is very desirable and strategies need to be put in place to retain and develop young talent and retain it in the country, whilst also attracting talent from abroad.

D. *Professor Dato' Dr Mahmud Mohd Norl*

The worldwide university ranking systems have to be coped with and that presents a big challenge to countries where the universities and the professoriate have to balance academic excellence efforts with the needs of the nation.

Part of the answer is to look for subjects for which the national system has an aptitude and focus resources on those areas to achieve excellence at international level.

Finally shaping the intellectuals of the country is also a big challenge, both so they can give account of themselves to the benefit of the reputation of the country, and to produce the ideas and products that will drive the economy forward.

E. Professor Dato' Dr Khalid Abdul Kadir

Means are needed to appoint fully accredited Professors with the leadership qualities necessary to set the standards in Universities particularly those involving research so that full recognition will be achieved in league tables which have international respect.

F. Professor Emeritus Tan Sri Dato' Dr Zakri Abdul Hamid

One challenge to Malaysian universities is how to maintain the current high standards of teaching, yet give faculty enough time and resources to do the high quality research that will gain respect from the rest of the academic world. One solution may be to set up interdisciplinary teams to work on specific areas – that is not trying to be good at every research area.

A second challenge for Malaysian professors is to be sufficiently well regarded to be advisors on policies and treaties, including invitations to serve on intra-governmental panels on matters like climate change, biodiversity and ecosystems, etc. It is interesting that the idea harks back to a major role of some early natural philosophers who often were trusted advisors to the rulers in those days.

G. Professor Tan Eng Chye

For universities to achieve excellence at a global level, the recruitment of full professors should be extended to applicants from around the world. There should be

clear and transparent articulation of the high standard of scholarship required and the salary levels offered should reflect that.

In Singapore, universities are incorporated as not-for-profit companies since 2006 and we are given the autonomy to chart our strategic directions and mobilise our resources. Local autonomous universities receive 70% of their funding from the Ministry of Education and missions of the universities are expected to be aligned with Singapore's strategic objectives.

Universities have the flexibility to develop strategies to meet those objectives, and there is no micro-management.

Finally the universities have to conduct their activities in a fully transparent matter so they can be held publicly accountable for how they seek to achieve their goals.

H. Professor Victor Lim

The major challenge is a dearth of academic leaders. Many of the institutional heads are appointed based on political reasons rather than academic prowess and therefore lack the respect of the faculty.

Because of excessive political interference and the lack of resources in local institutions the very best have generally moved to institutions overseas where they have shown their ability to compete on a level playing field.

I. Professor Mak Joon Wah

To import the very high standards seen in the world's leading universities. The analysis of the performances of some internationally acclaimed higher learning institutions and then benchmarking both self and one's

department against the outcomes. Make the process visible, apply the lessons learned and seek feedback on progress from external examiners and experts.

7.3. Analysis and Comments Regarding the Interviewee's Responses

1. Question One, the 'ice breaker' question which asked about major achievements upon becoming a professor, unsurprisingly produced widely varying responses. The underlying theme of early contribution to the change-process and to society has already been noted. Beyond that, the answers to the question were not subjected to further analysis.
2. Similarly Question Four was not subjected to further analysis. It will be recalled it asked about qualities needed of professors in Malaysia to meet international competitive challenges. A broadly uniform response identified the need for inspired academic leadership and mentorship from individuals who had achieved international stature in some field.
3. Questions Two and Three required some analysis to identify the messages they contain. Nevertheless caution needs to be exercised as the responses in some cases were complex so have had to be categorised in some cases in an expedient manner. Against that background the following has been done with the responses to Questions Two and Three:
 - a. The responses to both questions were scanned and made the basis of ten roles or qualities in two groups as shown and used in Tables 1 and 2 below.
 - b. In the case of Question Two the five responses were categorised and weighted from 5 to 1 in the order in which they were mentioned, with 5 being the first mentioned and 1 the last. For Question 3e at most two responses were given, so weightings were 2 and 1.
 - c. To give a basic idea how the interviewees were thinking across the board the weighted scores were summated and those sums used to produce rankings.
 - d. The results in the tables can only be regarded as preliminary at best, needing to be treated with some caution, but it does seem a pattern has emerged. If desired the categories could be made the basis of a questionnaire which could be completed by further distinguished professors in a much shorter time than each interview took. The resulting data would be very robust and could be used to draw firm conclusions.



Table 7.1 List five important qualities that should be observed in all Professors and those applying for the position.

	Roles or Qualities	Score	Rank
Front Line Roles	Teaching Excellence and Innovation	33	2
	Research Excellence and Innovation	41	1
	Speciality Service Delivery	3	8=
	Organisational Activity Separate from Above	2	10
	Advancement of Speciality	14	5
Inherent Qualities	Leadership, Mentorship and Adaptability	8	6
	High Ethical Standards	3	8=
	Communication Skills and Networking	15	3=
	Community Profile and Contributions	6	7
	International Reputation	15	3=

Table 7.1 Result of Rank Ordering

- | | |
|---|---|
| 1. Research Excellence and Innovation | 6. Leadership, Mentorship and Adaptability |
| 2. Teaching Excellence and Innovation | 7. Community Profile and Contributions |
| 3=. International Reputation | 8=. High Ethical Standards |
| 3=. Communication Skills and Networking | 8=. Speciality Service Delivery |
| 5. Advancement of Speciality | 10. Organisational Activity Separate from Above |

Table 7.2 From the changes you have noted in higher education globally, what are the issues that would be relevant to the appointment of professors and the roles of professors in future, locally, regionally and globally?

	Roles or Qualities	Score	Rank
Front Line Roles	Teaching Excellence and Innovation	5	5=
	Research Excellence and Innovation	4	
	Speciality Service Delivery	0	
	Organisational Activity Separate from Above	0	
	Advancement of Speciality	0	
Inherent Qualities	Leadership, Mentorship and Adaptability	12	3
	High Ethical Standards	5	5=
	Communication Skills and Networking	8	4
	Community Profile and Contributions	14	2
	International Reputation	29	1

Table 7.2 Result of Rank Ordering

- | | |
|--|--|
| 1. International Reputation | 3. Leadership, Mentorship and Adaptability |
| 2. Community Profile and Contributions | 4. Communication Skills and Networking |

7.4 The Origins of the Professor and Historical Roles

Introduction

1. The use of the word professor is relatively recent both regarding a type of person and as a title. According to Collins English Dictionary² the term professor came into being as a noun around 1308 and meant someone who professes to be an expert in an art or science. It was applied to teachers of the highest rank. The first recorded use of the word as a title is in 1706, possibly that being necessary to distinguish the most accomplished teachers from an expanding number of novices.
2. Thus in order to discuss professorial roles and qualities in the past another descriptor word must be sought. Despite the possibility of creating a circular argument it seem fairly safe to suggest that the term 'philosopher', particularly as applied to those concerning themselves with the phenomena of nature, is an acceptable predecessor term for professor as we now understand it.
3. In posterity such individuals were also called scholars, a term implying much more seniority and distinction that it does today. It is a good term because those so identified were using scholarly methods to produce new knowledge and ensure it was as valid and trustworthy as possible.
4. Interestingly amongst healthcare professionals the American Academy of Colleges of Nursing has articulated this with great clarity³. Essentially they suggest scholarship is the body of principles and practices used by scholars to make their claims about the world as valid and trustworthy as possible, and to make them known to the scholarly public.
5. There are a number of methods used in scholarship, with some overlapping or being refinements of others. They include: the historical method, relying on primary sources and applying criticism and synthesis; the empirical method which collects data to form a hypothesis; the experimental method which seeks to find causal relationships; and the scientific method which embodies features of all of the former, but then relies heavily on the testing of hypotheses.
6. To the rigorous application of scholarship as outlined above can be added communication skills by the methods available at the time for promulgating the knowledge discovered. Given that discussion and debate would form part of the scholarly method in their own rights that would leave careful documentation and respect for scholarly texts as a further aspect of the scholar.
7. These qualities are clearly seen in the great scholars of the past, particularly those who focussed on the topics of the healing professions. We can number Hippocrates, c370BC; Aristotle, 322BC; Aulus Cornelius Celsus, 45AD; Galen, 190AD and Abu'l Kasim Khalaf ibn Abbas al-Zahrawi in 1000AD amongst those in that tradition.
8. The available documentation does not reveal in detail the additional qualities, which must have expressed themselves in individuals who so painstakingly devoted themselves to the search for truth. Certainly advocacy, facilitator-ship, ambassadorship and community leadership must have developed in them all. To gain some insight into these possibilities brief histories of three philosophers and scholars who dealt with a wide range of subjects and topics are now given.

A. Aristotle (384 BCE – 322 BCE)

He was a Greek philosopher born in Stagirus in 384 BCE. At eighteen, he joined Plato's Academy in Athens and remained there until he was thirty-seven. His writings cover many subjects, including physics, metaphysics, poetry, theatre, music, logic, rhetoric, linguistics, politics, government, ethics, biology, and zoology. Aristotle's writings were the first to create a comprehensive system of Western philosophy, encompassing ethics, aesthetics, logic, science, politics, and metaphysics. At the request of Philip of Macedonia he became a tutor for Alexander the Great.

Aristotle's views on the physical sciences profoundly shaped medieval scholarship, and their influence extended well into the Renaissance, although they were ultimately replaced by Newtonian physics. In the zoological sciences, some of his observations were confirmed to be accurate only in the 19th century. His works contain the earliest known formal study of logic, which was incorporated in the late 19th century into modern formal logic.

In metaphysics, Aristotelianism had a profound influence on philosophical and theological thinking in the Islamic and Jewish traditions in the Middle Ages, and it continues to influence Christian theology, especially the scholastic tradition of the Catholic Church. Aristotle was well known among medieval Muslim intellectuals and revered as "The First Teacher".

His ethics, though always influential, gained renewed interest with the modern advent of virtue ethics. All aspects of Aristotle's philosophy continue to be the object of active academic study today. Aristotle wrote many elegant treatises and dialogues but the majority of his writings are now lost and only about one-third of the original works have survived.

B. Abu Ali al-Hasan ibn al-Hasan ibn al-Haytham (965 – c. 1040)

He was a scientist, polymath, mathematician, astronomer and philosopher. He made significant contributions to the principles of optics, as well as to astronomy, mathematics, visual perception, and to the scientific method. He also wrote insightful commentaries on works by Aristotle, Ptolemy, and the Greek mathematician Euclid.

Born in Basra, he lived mainly in Cairo dying there at age 74. According to one version of his biography, overconfident about practical application of his mathematical knowledge, he assumed that he could regulate the floods of the Nile. After being ordered by Al-Hakim bi-Amr Allah, the sixth ruler of the Fatimid caliphate, to carry out this operation, he quickly perceived the impossibility of what he was attempting to do. Fearing for his life, he feigned madness and was placed under house arrest, during which he undertook scientific work.

After the death of Al-Hakim he was able to prove that he was not mad, and for the rest of his life he made money copying texts while writing mathematical works and teaching. He has been said to be the father of modern optics, experimental physics and scientific methodology and could be regarded as the first theoretical physicist.

C. **Moses Maimonides (1135-1204AD)**

Mosheh ben Maimon, also called Moses Maimonides, was a medieval Spanish, Sephardic Jewish philosopher, astronomer, Torah scholar and physician of the Middle Ages. He was a rabbi, physician, and philosopher in Morocco and Egypt. His fourteen-volume Mishneh Torah still carries significant canonical authority as a codification of Torah Law.

He read those Greek philosophers accessible in Arabic translations, and was deeply immersed in the sciences and learning of Islamic culture. Though the Gaonic tradition, especially in its North African version, formed the basis of his legal thought, some scholars have argued recently that Muslim law, including Almohad legal thought, also had a substantial influence.

During the reign of the Almoravids, the position of the Jews in Cordoba, Spain was free of significant abuses but after another Berber dynasty, the Almohads, conquered the region in 1148, they abolished the dhimma status (i.e. state protection of life and wealth) in some of their territories. Maimonides's family, along with most other Jews, chose exile. For the next ten years, Maimonides moved about in southern Spain, eventually settling in Fes in Morocco. There he studied at the University of Al-Karaouine.

Following this sojourn in Morocco, together with two sons, he sojourned in the Holy Land, before settling in Fostat, Egypt around 1168. Subsequently, Maimonides was appointed the Nagid of the Egyptian Jewish community around 1171. With the loss of the family funds in a business venture, Maimonides assumed the vocation of physician, for which he was to become famous. He had trained in medicine in both Córdoba and in Fes. Gaining widespread recognition, he was appointed court physician to the Grand Vizier Al Qadi

al Fadil, then to Sultan Saladin, after whose death he remained a physician to the royal family.

In his writings, he described many conditions, including asthma, diabetes, hepatitis, and pneumonia, and emphasised moderation and a healthy lifestyle. His treatises became influential for generations of physicians. He was knowledgeable about Greek and Arabic medicine, and followed the principles of humorism in the tradition of Galen. He did not blindly accept authority but used his own observation and experience.

Maimonides in his medical writings sought to interpret works of authorities so that they could become acceptable. Maimonides displayed in his interactions with patients attributes that today would be called intercultural awareness and respect for the patient's autonomy. After visiting the Sultan's palace, he would arrive home exhausted and hungry, where "I would find the antechambers filled with gentiles and Jews ... I would go to heal them, and write prescriptions for their illnesses ... until the evening ... and I would be extremely weak".

It is remarkable that he managed to write extended treatises, including not only medical and other scientific studies but some of the most systematically thought-through and influential treatises on halachah (Rabbinic law) and Jewish philosophy of the Middle Ages. It has been suggested that his "incessant travail" undermined his own health and brought about his death at 69.

Discussion of Information in this Section

9. It is quite clear that these role model figures all combine a rigorous approach to establishing facts, which we would call research, with a wide range of interactions with communities and societies, these including teaching, publishing, mentoring and advocacy. As such they resonate well with the views of the senior Professors from Malaysia and Singapore on the necessary roles of the professor. In a later age the three scholarly individuals examined would be called 'Renaissance Persons'.
10. Clearly however the historical figures lived at time where the complexities of society were a great deal less than they are today. As such their roles and qualities give a useful baseline or starting point, (but only that), for institutional considerations regarding the appointments, deployments and appraisals of the Professoriate. With this as a starting point therefore the qualities seen have been combined by the Task Force into a Table titled 'The Stripped-Down Professor' (Table 7.3).

Table 7.3 *The Stripped-Down Professor.*

	Roles	Characteristics			Outcomes
1	Philosophical study	natural philosophy	scholarly methods		Scholarly information
2	Informed practice	formulation of hypotheses	testing of hypotheses		Practical information
3	Discussion with peers	rigor in activities	rejection of fallacies		Quality assurance
4	Publication of information	authorship	networking		Societal well-being
5	Teaching of initiates	oral communication skills	assessment		Facilitated academics
6	Systematic leadership	in subject area	within institutions	in external activities	Societal well-being

11. Attention can be drawn in particular to two roles on the list. Firstly is publication of information, all the three historical personages considered wrote extensively and that clearly should be a role of today's professors. Nearly all senior professors interviewed saw the need for Malaysia to achieve higher positions in the internationally-recognised University league tables and that means more peer reviewed publications arising from scholarly activities of professors.
12. The second role concerns systematic leadership within the subject area, within institutions and in external activities. All three philosophers moved in high circles because the approach to problems was respected, and they were undoubtedly influential in those settings.
13. Finally, for a broader view and to conclude this section, 'The Macfarlane Professor' highlighted in the Senate Paper is presented below in a similar tabular format (Table 7.4). However it is noted that some of the roles are so widely drawn that they may be difficult to apply operationally.
- Whilst most modern aspirants to a successful and meaningful professorship will be unable to reach and influence the highest governing circles, they should be attempting to use their intellectual abilities to improve society at all levels.

Table 7.4. The Macfarlane Professor.

	Roles	Characteristics				Outcomes
1	Facilitator of learning	undergraduate level	postgraduate level	faculty development		Facilitated learners
2	Researcher	lead research team	vet research proposals	generate hypotheses	source external grants	Scholarly information
3	Critic	reviewer for journals	theses examiner	external examiner	on accreditation bodies	Quality assurance
4	Leader in the Profession	advocate of profession	nationally recognised	professional organisation		Professions well-being
5	Mentor	less experienced colleagues	postgraduate students	undergraduate students		Mentored academics
6	Guardian	standards of scholarship	IMU core values	subject quality assurance		Quality assurance
7	Enabler	network access	opportunities provision			Facilitated academics
8	Ambassador	national external relations	international relations			Universities well-being
9	Intellectual leader	community change leader	national policy decisions			Community well-being

7.5 Discussion, Conclusions and the Way Ahead

1. Given the diverse backgrounds of the interviewees in this project it is interesting to see how almost without exception, independently they have converged on a particular set of conclusions. So the leading roles of the professor of today are perceived by them to be Innovative Research and Innovative Teaching. Both are well ahead of other roles and qualities; research is ahead of teaching but not by very much. The two roles resonate with the two main activities of distinguished natural philosophers of the past and suggest that not much has changed for would-be professors today in terms of fundamentals.
2. Of other roles regarded as desirable at the present time, one of the two equal third choices - International Reputation - though well behind the first two is notable as it has a special significance. It emerges as the clear leader as the role which the interviewees thought should be more emphasised in the future. If that is the case then institutions may need to facilitate that particular activity by more intensively promoting academic staff travel, time for video-link discussions and organisation of key international conferences, but only of course for those individuals who can demonstrate they have exciting messages for the international community in their subject area.

3. At position five for current roles, Advancement of Speciality is probably unsurprising. It implies that many academics should be getting out more from the secluded confines of academia, something many would agree with. It is consistent with the emphasis placed by the interviewees on Communication Skills and Networking, (third equal for current roles), and Community Profile and Contributions (second for roles with more emphasis in future).
4. Continuing the positive note regarding the outcomes this investigation, Question Four also produced quite a strong consensus. It will be recalled that was a question about the quality in professors most needed by Malaysian universities in the future. It came out to be Academic Leadership, which can be interpreted as a willingness and ability of professors to move both national and university agendas forward using the rigour of the scholarly methods to manage such processes.
5. A frequently discussed front line role which perhaps surprisingly was not prominently ranked was Speciality Service Delivery. However several interviewees observed that the role has an importance for academic personnel who have need to undergo extensive training in the delivery of clinical care to achieve a reputation in that field and thereby become eligible for a professorship. It was suggested by some of those interviewed that in those situations the requirement for performance levels in roles of the 'generic' professor should be modified. The idea is explored and discussed in the conclusions below.
6. Before moving on to conclusions, readers are reminded it was pointed out in the introduction the Task Force had clearly circumscribed aims and did not aim to conduct a study on the role of the professor or the

future of the professoriate globally. Others had already done that with success and some of the key papers have been cited. Instead the Task Force have used a novel methodology to see how the prior finding may relate to the Malaysian context.

7. One factor to be noted is Malaysia possesses a national culture where contributions to its much-admired multicultural society are strongly encouraged. In addition to other roles here the professoriate is expected to participate enthusiastically in those activities.
8. Some tentative conclusions below by members of the Task Force are in three groups:
 - Firstly, it is concluded the methodology has been fit for its purpose, and if it can be used in further investigations regarding professorial roles.
 - Secondly, as the findings of the experts have predominantly related to the 'generic' professor, those outcomes should be adapted to those individuals whose professional callings have their own well-established set of roles, amongst whom clinicians are prominent particularly at the IMU.
 - Thirdly, the findings might be used to set targets for young Malaysians so they can begin to prepare themselves to meet the criteria expected of those aspiring to membership of the professoriate in this country in the future.

Conclusions

A. The interview technique structured around four questions was a useful method of gathering qualitative information regarding roles of professors.

9. The interview procedure proved to be very straightforward with the four selected questions assisting progress. Initially, interviews were recorded but that proved unwieldy as this did not add further information to on-the-spot note-taking and was discontinued. Undoubtedly the decision to have senior professors act as interviewers facilitated matters and meant everyone was comfortable.

10. Thus, this peer-interview approach could be used for exploratory purposes on opinions regarding roles of the professor in regions where the duties of the professoriate are regarded differently to those in Malaysia and the Commonwealth countries. The Americas being the most obvious example.

B. Responses showed a high degree of consistency leading to a simple framework of roles and qualities which may prove useful for quantitative research.

11. Consistency of responses suggested to the authors that the results are true reflections of the opinions of the interviewees. Nevertheless as previously, it is pointed out that this is an exploratory investigation rather than a rigorous research project. Even so, from the results it proved possible to converge on five roles and five qualities of professors to give a workable analytical framework.

12. The convergence is an opposite approach to that adopted by Macfarlane and others. Presumably as a mind-broadening exercise they trawl options to find as many roles as possible. Each approach can be regarded

as valuable in tackling the issue of the activities of professors now and in the future.

13. The framework revealed by the convergent approach together with a properly constructed questionnaire, (say with the four questions in an arrangement requiring structured answers), could be used to reveal possibly contrasting views of various stakeholder groups regarding roles e.g. views of parents of students compared with the opinions of aspirants to the professorial title.

C. The interviewees noted demanding training and ongoing performance requirements for certain professionals aspiring to the professoriate.

14. Almost all the interviewees gave positive mention to the beneficial presence of members of esteemed professions either within the professoriate or aspiring to join it. However answers consistent with the option 'Speciality Service Delivery' that supported qualities related to those professions as a highly desirable role for professors were largely absent. Instead the answers led to options reflecting qualities associated with the conventional view of the 'generic' scholarship-based professor.

D. However interviewees chose to focus on the roles and qualities of the 'generic' professor, particularly scholarship, in constructing their responses.

15. The grouping with strong professional training requirements most frequently mentioned were clinicians. So the uncompromising orientation towards 'generic' requirements rather than those connected with successful prosecution of clinical work will be of interest to the IMU. There are related situations e.g. where a professional had achieved success in

commerce, industry or government also cited as not compensating for absence of scholarly achievement.

16. Thus despite the attractions of appointing certain stimulating and successful professionals to the professoriate in the absence of 'generic' qualities, the results of the investigation indicate that is not regarded as an acceptable course of action. The interviewees suggested separate titles like Senior Fellow were offered.

E. Nevertheless it was agreed that benchmarks for the 'generic' professor should be adapted for professionals with such separate performance demands.

17. There are of course professionals in the categories mentioned above who manage to fulfil generic and professional requirements. Indeed for clinical teachers it is essential that they have both types of abilities. The situation for entry into the professoriate then becomes not an absolute, but rather one of degree. The interviewees generally indicated that quantitative levels of scholarship required of generic scholars should be suitably adjusted for those who had dedicated extensive time to professional training and related requirements.

F. It is unlikely that any one criteria set will suffice for selecting future professors for Malaysia but international approval should always be required.

18. It is tempting to think that there might be an optimal set of criteria for those aspiring to the professoriate in Malaysia in the future. The opinions of the interviewees did not suggest that, in spite of the convergences noted above. Instead it is like that selection will continue to be carefully done case-by-case as it is today.

19. However high levels of achievement in research and innovation, and teaching and innovation will be needed, and those will need to be identified as being of international excellence standard. Additionally in Malaysia evidence of applying those abilities for the good of the community will also be needed.

G. An authoritative statement of a preferred achievement pattern for would-be professors, to be implemented at a future precisely specified date would improve the culture of scholarship and motivate young Malaysian academics.

20. Although it is unlikely that any particular set of criteria will become the sole pathway to the professoriate, it could be beneficial for authorities to set out a preferred criteria set which will become recognised as having particular significance for promotion to professor at a fixed time in the future, for example five years' time.

21. Those criteria and the pathway they will represent will undoubtedly be adopted by many ambitious young people and the scholarly culture represented would come into being quite quickly. At its simplest it could be a number of innovative research publications in indexed peer-reviewed journals, a number of innovative teaching publications, similarly in index peer-reviewed publications, and finally a portfolio with a specified number of scholarly contributions to the well-being of the community.

H. The last conclusion is that interest in the roles of the professor and debate about how those roles are to be promoted and encouraged will continue.

22. The terms of reference for the Task Force did not include reporting on the future of the professoriate. That will be a demanding agenda challenging to

developed nations as well as all others. However the present study does lead into that broader discussion and it will interest the reader of this report that others have been there before.

23. On the internet is the preparatory document for a 1990 programme to be conducted in America: The Future of the Professoriate - A Look in the Mirror 5. However it has no conclusions. Instead it sets more than 200 questions and issues and marshals 150 American academics to answer them. We do not know how it all turned out and if any of it was relevant to Malaysia in 2015. But it does suggest that the topic will be of continuing interest.

7.6 List of References and Sources

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Acknowledgments

The members of the Task force wish to thank the President of International Medical University, Tan Sri Dr Abu Bakar Suleiman for conceiving this most interesting project, commissioning them to carry it out and for his patience in waiting for it to come to fruition.

They also wish to acknowledge the Vice President of the University, Professor Peter Pook for inviting them to be members of the Task Force, for his continuing encouragement, and for allowing his Personal Assistant, Ms Carolyn Ng to render administrative assistance.

Finally and unreservedly the members of the Task Force state they are sincerely grateful to the distinguished interviewees for their patience, understanding and expenditure of their valuable time in giving their deep insights without which this report would not have been possible.

7.7 Appendices

Appendix 1: Appointment and Remit of The Task Force

Dear Colleagues

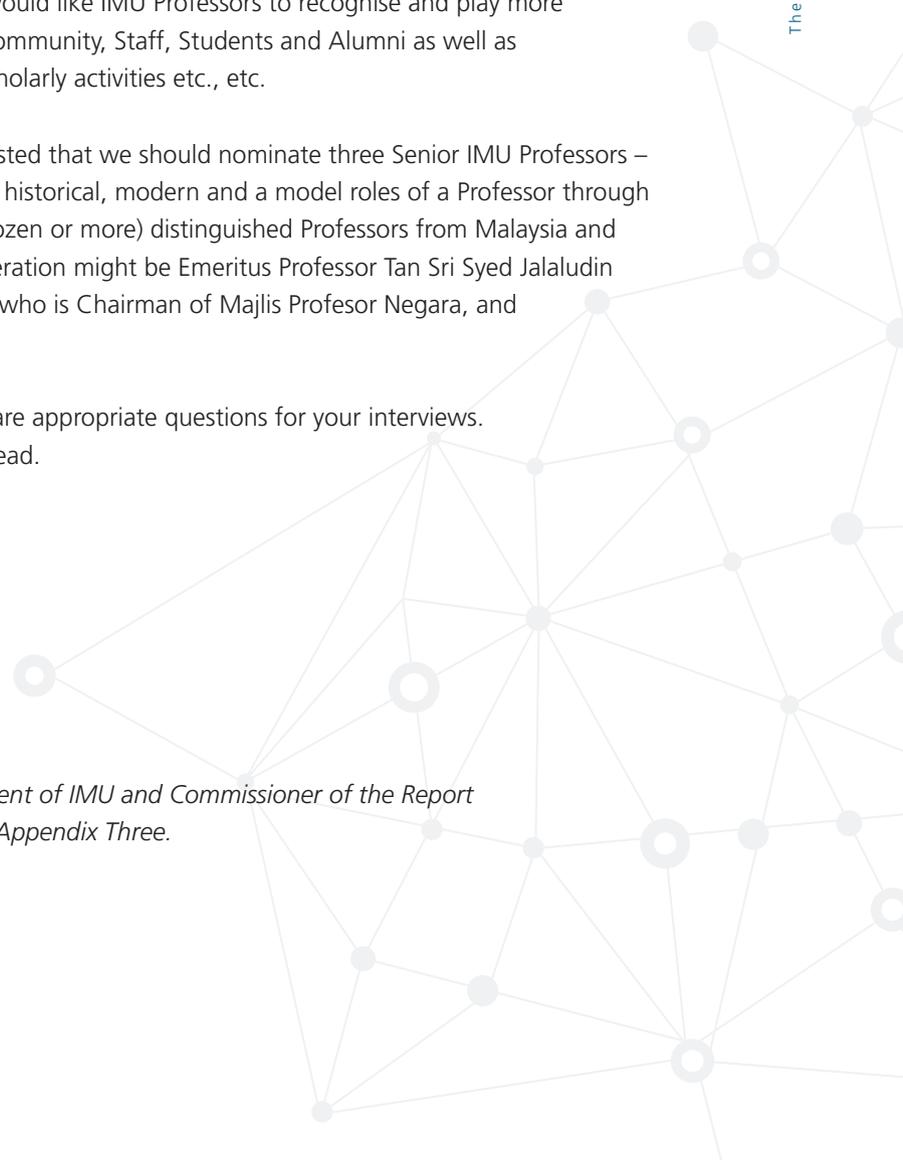
As you remember, the attached paper on “The Role of the Professor in IMU”, written by Professors Victor Lim and Mak Joon Wah, was discussed and adopted recently at Senate. The President of the University, Tan Sri Dr Abu Bakar Suleiman would like us to explore ways in which IMU Professors could contribute more to develop our University – IMU – to become a much stronger university. I believe he would like IMU Professors to recognise and play more active roles to transform IMU to be more relevant to our Community, Staff, Students and Alumni as well as discovering new knowledge through research and other scholarly activities etc., etc.

In view of the above, Tan Sri Dr Abu Bakar Suleiman suggested that we should nominate three Senior IMU Professors – hence you are chosen by Victor and myself – to look at the historical, modern and a model roles of a Professor through a series of external interviews with a few (perhaps half a dozen or more) distinguished Professors from Malaysia and Singapore. The candidates within Malaysia for your consideration might be Emeritus Professor Tan Sri Syed Jalaludin Syed Salim, Emeritus Professor Dato Sri Zakri Abdul Hamid who is Chairman of Majlis Profesor Negara, and Emeritus Professor Tan Sri Augustine Ong.

You might need to do some preparatory work first to prepare appropriate questions for your interviews. You should find the attached paper useful for your task ahead.

Best wishes
Peter
Prof Peter Pook
Vice President
Executive Dean, Faculty of Medicine & Health

Note: Biosketches of Tan Sri Dr Abu Bakar Suleiman, President of IMU and Commissioner of the Report and the Task Force members and Interviewers are given in Appendix Three.



Appendix 2

Biosketches of the Interviewees

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- A. Tan Sri Dato Dr Syed Jalaludin Bin Syed Salim
- B. Tan Sri Dato' Professor Augustine Ong
- C. Tan Sri Dato' Professor Dr Sharifah Hapsah Syed Hasan Shahabudin
- D. Professor Dato' Dr Mahmud Mohd Nor
- E. Professor Dato' Dr Khalid Abdul Kadir
- F. Professor Emeritus Tan Sri Dato' Dr Zakri Abdul Hamid
- G. Professor Tan Eng Chye
- H. Professor Victor Lim
- I. Professor Mak Joon Wah



Tan Sri Dato' Dr Syed Jalaludin Bin Syed Salim

Academician Emeritus Professor Tan Sri Dato' Dr Syed Jalaludin Syed Salim was appointed Chairman of Bank Rakyat in 2003 after retiring as Vice Chancellor of Universiti Putra Malaysia. He has a Doctorate from the University of London. Tan Sri Dato' Dr Syed Jalaludin's career spans over thirty years in academia and characterised by the many innovations in higher education and research sectors in Malaysia. In recognition of his contributions and devotions to the service, he was bestowed the National Science Laureate and title as the National Academician. Moreover, Tan Sri Dato' Dr Syed Jalaludin was conferred the Emeritus Professor by Universiti Malaysia Terengganu and Universiti Putra Malaysia.

Tan Sri Dato' Dr Syed Jalaludin continues to serve the higher education sector as the Chairman of Universiti Putra Malaysia and Universiti Tun Abdul Razak. Taylor's University has recently appointed him as its first Chancellor, and Akademi Sains Malaysia has also conferred him as a Senior Fellow. He holds the title Academician Emeritus Professor Tan Sri Dato' Dr Syed Jalaludin Syed Salim.

Furthermore, Tan Sri Dato' Dr Syed Jalaludin is involved in the corporate sector where he currently holds several positions in the public and private companies including the Halal Industry Development Corporation (HDC) as its Chairman.





Tan Sri Dato' Professor Augustine Ong

Tan Sri Dato' Professor Ong graduated from the University of Malaya with BSc and MSc and took his PhD in organic chemistry from King's College London. He had a full university career including being Dean, School of Chemical Sciences, and University Sains Malaysia. He was the Fulbright-Hays Fellow at the Massachusetts Institute of Technology (MIT) 1966 to 1967. He spent a sabbatical year in the University of Oxford as the Visiting Professor at the Dyson Perrins Laboratory, 1976 to 1977.

From 1987 to 1989 he was Director-General of the Palm Oil Research Institute of Malaysia and then Director in Science and Technology for the Malaysian Palm Oil Promotion Council from 1990 to 1996. He has been active in research and development specialising in the chemistry and technology of palm oil. He has 14 patents in the technology of palm oil to his credit and published more than 380 articles. He played a significant role in the programme to counter the Anti-Palm Oil Campaign from 1987 to 1989 which came to a favourable conclusion in 1989.

He is currently Chairman of the International Society for Fat Research (ISF), President of the Malaysian Oil Scientists' and Technologists' Association, a Senior Fellow of the Academy of Sciences, Malaysia, a Fellow of the Royal Society of Chemistry London and a Fellow of the Third World Academy of Sciences. He has been Founder President of the Malaysian Invention and Design Society (MINDS) since 1986. He served as a Director of HSBC (Malaysia) from its incorporation until 2004.





Tan Sri Dato' Professor Dr Sharifah Hapsah Syed Hasan Shahabudin

Tan Sri Dato' Professor Sharifah Hapsah began her career at the Faculty of Medicine of Universiti Kebangsaan Malaysia (UKM) in 1975. She became Director of the Centre for Academic Advancement and developed UKM's first Strategic Plan. She moved to the Ministry of Higher Education as Director of the Quality Assurance Division for public universities, and as Chairman and CEO of the National Accreditation Board, formulated the Malaysian Qualifications Agency Act responsible for the quality framework of higher education in Malaysia. As Chairperson of the Vice Chancellor's Committee she developed the code of university good governance to facilitate the process of autonomy in public universities. She became Vice-Chancellor of UKM in 2005, until 31st December 2013.

She is President of the National Council of Women's Organisation (NCWO) and played a leading role in developing the national policy for women. She is a prolific writer and columnist focussing on education, health and gender issues. She has been bestowed with numerous national awards and recognised internationally with honours such as the Fred Katz Memorial Medal, COL-ICDE "Award of Excellence", Honorary Doctor of Engineering from Stevens Institute of Technology, USA, Doctor Honoris Causa of Higher Education Management from University Padjajaran Indonesia and Doctor Honoris Causa in Medical and Higher Education Management from University of Alba Iulia, Romania.

During her tenure as UKM Vice Chancellor she introduced four innovative projects under the PERMATA or Jewel of the Nation programme. These are education for the gifted and talented (PERMATA Pintar), Empowerment of Youths-at-risk (PERKASA Remaja), Education for Children with Autism (PERMATA Kurnia) and the PERMATA Specialist Children's Hospital. She is currently responsible for consolidating and expanding all PERMATA programmes at the national level which also include PERMATA Insan (tafiz), PERMATA Seni for children talented in the performing arts and early childhood education and care (ECEC).



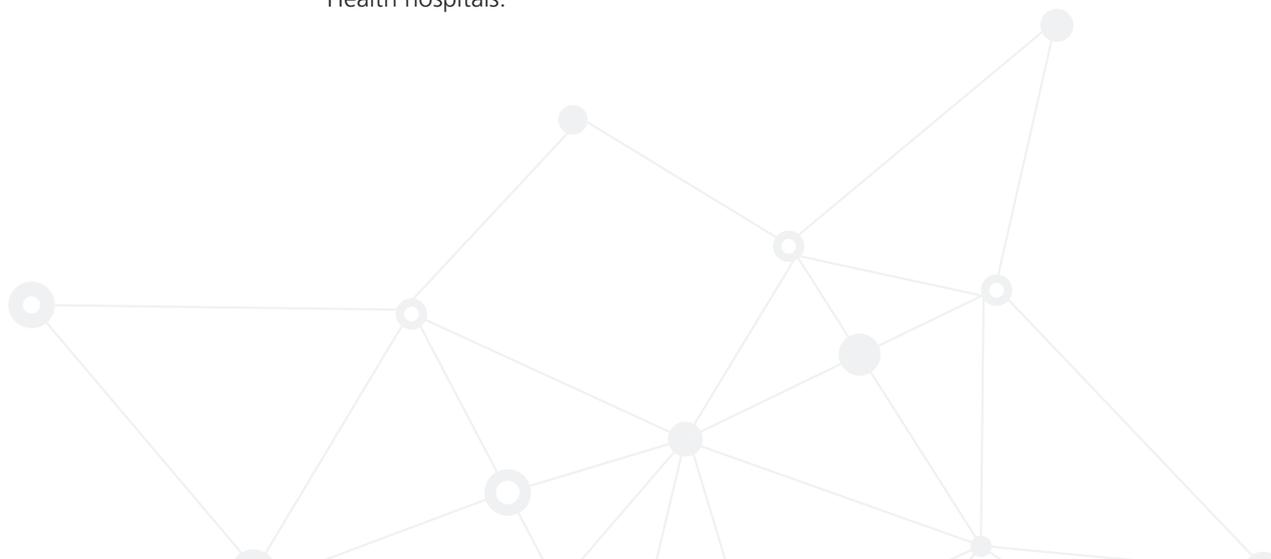
Professor Dato' Dr Mahmud Bin Mohd Nor

Professor Dato' Dr Mahmud is Foundation Professor of Surgery at Universiti Sains Islam Malaysia (USIM) and Adjunct Professor of Paediatric Surgery at Universiti Kebangsaan Malaysia (UKM). In the second batch of medical students at the University of Malaya, he graduated in 1970 and gained the Fellowship of the Royal College of Surgeons of Edinburgh in 1975. His surgical training was at University Hospital, Kuala Lumpur, The Hospital for Sick Children Great Ormond Street, London and the Royal Childrens' Hospital, Melbourne.

He began his surgical career in General Surgery and Paediatric Surgery at the General Hospital Kuala Lumpur, then relatively early in his career was made responsible for establishing the Department of Surgery at UKM. He also developed the Paediatric Surgical Service within the Department of General Surgery of Kuala Lumpur General Hospital.

He was Professor of Surgery and Dean of the Medical Faculty of UKM from 1984 to 1990. He was responsible for developing the country's first local postgraduate programme in surgery in 1981 leading to a Mastership degree in surgery. That became the pattern for all the other specialties during his tenure as Dean. He initiated the establishment of the National Conjoined Board for Postgraduate Medical Education and was the first Chairman.

In 1990 he returned to the Ministry of Health to head the newly formed Department of Paediatric Surgery at the Institute of Paediatrics, eventually becoming Head of the Institute. In 1992 - 2000 he was appointed as Head of the Department of General Surgery and Paediatric Surgery at Hospital Kuala Lumpur, carrying with it headship of surgical services in the Ministry of Health Malaysia. He has developed and upgraded the surgical services in Malaysia by establishing subspecialty services in the Ministry of Health hospitals.





Professor Dato' Dr Khalid Abdul Kadir

Professor Dato' Khalid graduated with first class honours MBBS 1975 from Monash University, Australia. He worked at the Alfred Hospital and Prince Henry's Hospital, Melbourne, where he trained for his FRACP in endocrinology and did his Ph.D. in Medicine awarded by Monash in 1984.

He is a Fellow of The Royal Colleges of Physicians of Edinburgh, Glasgow, Ireland, London, and College of Pathologist Australasia. He is also a Fellow of The Academy of Sciences (Malaysia) and Academy of Medicine of Malaysia and Singapore. In 2008 he was made an honorary Fellow of the American College of Physicians.

He joined Universiti Kebangsaan Malaysia as a lecturer in 1982. He was Dean from 1990 to 1997, and foundation Director of Hospital Universiti Kebangsaan Malaysia 1996 till 2000. He retired from UKM in 2004 as Emeritus Professor. In September 2004 he was made Professor of Medicine, Monash University in Malaysia and Head of Clinical School in Johor Bahru. His main research interests are in stress and mechanisms of adaptation to stress by hormones, metabolic stress, and the relationship of socioeconomic factors as a form of stress in diabetes.

He has published more than 270 papers and chapters in 4 international textbooks on endocrinology and diabetes and supervised 36 PhD's and Masters graduates. He was President of the Malaysian Endocrine Society from 1995 - 1998 and ASEAN Federation of Endocrine Societies from 1992-1993. He was a Member of Council, International Diabetes Federation representing Western Pacific countries in 2000. He was an elected member of the Malaysia Medical Council from 1986 till 2001, and was Master of the Academy of Medicine of Malaysia 2005 – 2008.





Professor Emeritus Tan Sri Dato' Dr Zakri Abdul Hamid

Professor Emeritus Tan Sri Dato' Zakri Abdul Hamid assumed the office of Science Advisor to the Prime Minister of Malaysia on 16 August, 2010. He was the founding Director of the Centre for Global Sustainability Studies (CGSS@USM) and is holder of the Tuanku Chancellor Chair at Universiti Sains Malaysia. He was a Professor and Deputy Vice-Chancellor of National University of Malaysia from 1992 to 2000, and was conferred the title of Emeritus Professor from the same university in 2004.

Tan Sri Dato' Dr Zakri has extensive experience in science governance at the national and international levels. He was the Founding President of the Genetics Society of Malaysia and was the Chair of the National Taskforce to formulate the 'National Policy on Biological Diversity' launched by the Government in 1998. From 2001 to 2008, he was the Director of the Institute of Advanced Studies at the United Nations University in Japan. He Co-Chaired the "Millennium Ecosystem Assessment" (2001–2005), a "mega-science" project undertaken under the auspices of the United Nations and involving 1,360 experts from 95 countries. He was also the Chair of the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) for the Convention on Biological Diversity from 1997 to 1999.

Tan Sri Dato' Dr Zakri's academic interests lie in genetics, biodiversity and bio-diplomacy. He is a recipient of the Langkawi Award (1998), and is a fellow of several learned bodies: the Academy of Sciences Malaysia; the Academy of Sciences of the Developing World; the Islamic World Academy of Sciences; and the World Academy of Art and Science. Dr Zakri is a former Fulbright Scholar and is presently an Executive Board member of the Paris-based International Council for Science (ICSU) and sits on the Advisory Board of the Arab Fund Fellowship Programme.





Professor Tan Eng Chye

Professor Tan Eng Chye is Deputy President (Academic Affairs) and Provost at the National University of Singapore (NUS). His responsibilities include proposing the budget and resource allocation plan for the academic cluster; overseeing NUS Deans and their Faculties/ Schools; providing strategic directions and setting academic policies. Professor Tan is responsible for the appointment, promotion and tenure process, as well as the reward and incentive systems for academic staff.

Professor Tan has held positions of administrative leadership at Faculty and Department levels. He was Dean of Science from June 2003 to March 2007.

Professor Tan obtained his Bachelor in Mathematics (First Class Honours, 1985) at NUS and his PhD (1989) at Yale University. He joined NUS as a faculty member of the Department of Mathematics in 1985 (as a Senior Tutor). Professor Tan is an active national serviceman in Singapore, holding the rank of Deputy Superintendent of Police. He was President of the South East Asian Mathematical Society from 2004 to 2005.

Professor Tan's research interests are Representation Theory of Lie Groups and Lie Algebras; and Invariant Theory and Algebraic Combinatorics.



Professor Victor Lim

Professor Victor K E Lim is the Vice-President for Education and Professor of Pathology at the Faculty of Medicine and Health, International Medical University in Kuala Lumpur. He was the executive Dean of the Faculty of Medicine and Health from 2004 – 2011. He was the Director of the Infectious Diseases Research Centre at the Institute for Medical Research in Kuala Lumpur from 2001 – 2004 and prior to that was the Professor of Microbiology and Deputy Dean (Academic Affairs) at the Faculty of Medicine, Universiti Kebangsaan Malaysia.

He obtained his MBBS from the University of Malaya in 1974, MSc in Medical Microbiology from the University of London in 1978, and passed the Royal College of Pathologists examinations (MRCPath) in 1981.

He was the President of the Western Pacific Society of Chemotherapy from 2004 - 2008, the Master of the Academy of Medicine of Malaysia from 2008 – 2011 and the President of the Malaysian Society for Infectious Diseases and Chemotherapy from 1999 – 2003. He is a Fellow of the Royal College of Pathologists, a Fellow of the Academy of Medicine of Malaysia, a Fellow of the Academy of Medicine of Singapore, a Fellow of the Academy of Family Physicians of Malaysia and a Fellow of the Academy of Sciences of Malaysia.

He is a member of various governmental technical committees including the National Antibiotic and Infection Control Committee and the National Medical Testing Accreditation Committee. His fields of interest include antimicrobial chemotherapy and infectious diseases and has published and presented over 350 scientific papers.



Professor Mak Joon Wah

Professor J W Mak is currently the Vice-President for Research, and Professor of Pathology, International Medical University (IMU) in Kuala Lumpur. He also holds the post of Director, Institute for Research, Development and Innovation (IRDI). He served at the Institute for Medical Research (IMR), Malaysia from 1972 in various capacities, culminating in his appointment as Director of the Institute in 1996. He was a consultant in filariasis and malaria to the World Health Organisation on numerous occasions and was the Director of the WHO Collaborating Centre for Lymphatic Filariasis based at the IMR. He was also the Dean of the SEAMEO-TROPMED Postgraduate School for Applied Parasitology and Entomology from 1991-1996.

On his retirement from IMR he was appointed Professor in the Department of Pathology, Faculty of Medicine and Health Sciences at Universiti Putra Malaysia, where he served for three years before joining IMU in 2001. He obtained his MBBS from the University of Singapore in 1967, Masters of Public Health (MPH) from the University of Malaya in 1976, and Doctor of Medicine (MD) from University of Singapore in 1980. He obtained his Membership and the Fellowship of the Royal College of Pathologists in 1983 and 1995 respectively. He obtained his Postgraduate Diploma in Applied Parasitology & Entomology (DAP&E) from the SEAMEO-TROPMED Centre, Malaysia in 1972.

He was the President of Malaysian Society of Parasitology and Tropical Medicine (MSPTM) in 1982 and the Founding Editor of its Journal, Tropical Biomedicine in 1985 and continued as its Editor until 1987. His fields of interest include tropical and parasitic diseases and he has published over 350 scientific papers. He has supervised successfully 11 MSc and 13 PhDs by research since 1978. For his contributions to parasitology and tropical medicine he was awarded the MSPTM Medal in 1981 and the Sandosham Gold Medal in 1989. He was awarded the National Science Award in 1985 and the Merdeka Award for Outstanding Scholastic Achievement in 2011.

Appendix 3

Biosketches of the President of IMU, Commissioner of the Report and the Interviewers

- A. Tan Sri Dato' Dr Abu Bakar Suleiman
- B. Professor Frederick Charles Smales
- C. Professor Dato' Dr Kandasami Palayan
- D. Professor Davendralingam Sinnah



Tan Sri Dato' Dr Abu Bakar Suleiman

Tan Sri Dato' Dr Abu Bakar Suleiman attended Malay College, Kuala Kangsar, St John's Institution, Kuala Lumpur and Geelong Grammar School in Victoria, Australia. He obtained his MBBS from Monash University, Australia. His other qualifications include Master of Medicine (Internal Medicine), National University of Singapore and the Fellowship of the Royal Australasian College of Physicians. His postgraduate training in Nephrology was at Georgetown, University Hospital, Washington DC and Prince Henry's Hospital in Melbourne (1975-1976). He attended the Advanced Management Programme at Harvard Business School in 1991.

He founded the Department of Nephrology at Hospital Kuala Lumpur, developing Nephrology and Dialysis services, extending them to other hospitals and creating the network of dialysis centres in Malaysia, in the government hospitals as well as in the community. He also developed the Renal Transplantation services at Hospital Kuala Lumpur. He became Director General of Health Malaysia from 1991 to 2001, and was appointed President of International Medical University in 2001.

Offices of distinction which he has held include President, Malaysia Medical Association (1985), Master, Academy of Medicine Malaysia (1990-1998), Founding President, Malaysian Society of Nephrology (1984-1985), Founding President, Malaysian Society of Transplantation (1996-2002), President, Association of Private Hospitals, Malaysia (2002-2008), President, Malaysian Health Informatics Association and President, National Diabetes Institute (2001-2012)

Currently he is President of the Board of Governors, National Kidney Foundation, Director and Chairman of Medical Defence Malaysia Berhad, Director of the IMU Foundation, Chairman of IHH Healthcare Berhad (PLC) and Chairman of the Board of Directors of CCM Duopharma Biotech Berhad (CCMD) (PLC).



Professor Frederick Charles Smale

Professor Frederick Smales is a dental surgeon with specialist registration in Restorative Dentistry and Periodontology. He also has interest in Oral Physiology with regard to ageing of oral tissues. Currently he is a Professor in the School of Dentistry of International Medical University, Kuala Lumpur, Malaysia.

Professor Smales read for degrees in Physiology and Dental Surgery at the University of Newcastle upon Tyne. He spent most of his working life at what is now Bart's and the London School of Medicine and Dentistry, Queen Mary, University of London. He was Dean of Dentistry from 1989 to 1994, relocating to South East Asia in 1998.

In 1998 he became the first Executive Dean of the University of Hong Kong following a world-wide search, the position being in the Faculty of Dentistry, and carrying with it the Directorship of the Prince Philip Dental Hospital.

In 2004 Professor Smales was invited to be the Foundation Dean of Malaysia's first private Faculty of Dentistry to be located at AIMST University in Kedah Darul Aman, Malaysia and also to establish a 150 chair University Dental Centre there. He was appointed Vice Chancellor of AIMST University from 2010 to 2011.





Professor Dato' Dr Kandasami Palayan

Dr Kandasami is Professor of Surgery at the International Medical University. He received his medical degree from University of Bombay in 1975 and the Fellowships from the Royal College of Surgeons Ireland, Edinburgh and Glasgow in 1980. Dr Kandasami's main interest has been in the field of upper gastrointestinal surgery.

After his surgical training in the United Kingdom, Dr Kandasami served as Consultant General Surgeon in several Ministry of Health hospitals before joining the International Medical University in 2001. He was appointed Dean of the Clinical School for the period 2004 to 2009.

Dr Kandasami has contributed substantially to the development of surgical services in the country. He has been actively involved in organising and conducting postgraduate courses and was the Chairman of the Higher Surgical Training Committee of the College of Surgeons, Malaysia. He was Deputy Chairman and is currently a member of the National Perioperative Mortality-Review Committee. He played a lead role in the development of the national credentialing system and the National Specialist Register. Dr Kandasami is Master of the Academy of Medicine, Malaysia, a past President of the College of Surgeons of Malaysia, past President of the Malaysian Society of Gastroenterology and Hepatology.





Professor Davendralingam Sinniah

Professor Davendralingam Sinniah is a paediatrician with special interest in paediatric haematology and oncology and paediatric education. Currently he is a Professor in the Department of Paediatrics of International Medical University Clinical School Seremban, Malaysia.

Professor Sinniah graduated from Trinity College, University of Dublin, Eire. Most of his working life was at the University of Malaya where he was Professor of Paediatrics in the Faculty of Medicine. He also had a period as Senior Investigator, Cancer Research Centre, University of Pennsylvania School of Medicine, Philadelphia, USA.

Since his retirement from the University of Malaya he has gone on to take on various positions including Foundation Professor of Paediatrics & Head of Department of Paediatrics, Faculty of Medicine & Health Sciences, Universiti Putra Malaysia; Foundation Professor of Paediatrics & Head of Department of Paediatrics: Melaka Manipal Medical College; Professor of Paediatrics & Head of Department of Paediatrics, Penang Medical College; Professor of Paediatrics & Head of Department of Paediatrics, AIMST University, Semeling, Bedong, Kedah.

