

Jafri Malin ABDULLAH

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Chief Editor, Malaysian Journal of Medical Sciences,
Universiti Sains Malaysia Health Campus,
16150 Kubang Kerian, Kelantan, Malaysia



Abstract

The Malaysian Journal of Medical Sciences and the Orient Neuron Nexus have amalgated to publish a yearly special issue based on neuro- and brain sciences. This will hopefully improve the quality of peer-reviewed manuscripts in the field of fundamental, applied, and clinical neuroscience and brain science from Asian countries. One focus of the Universiti Sains Malaysia is to strengthen neuroscience and brain science, especially in the field of neuroinformatics.

Keywords: brain science, neuroscience, Malaysia, neuroinformatics

This first special issue of the Neuroscience-Orient Neuron Nexus was established after a meeting on the 11th of March, 2014 in the Universiti Sains Malaysian (USM) Press, which was chaired by Professor Dato Dr Mohammed Jantan agreed to “take over” The Orient Neuron Nexus, which had been run by the Department of Neurosciences, School of Medical Sciences, Universiti Sains Malaysia and to have at least one issue that included fundamental, applied and clinical neuroscience manuscripts in a journal already cited in PubMed. We proceeded with 6 manuscripts and abstracts from previous Orient Neuron Nexus articles in the first issue of December, 2014 and hope that this yearly special issue will flourish in the future, thereby establishing citable research articles in neuroscience and brain science and in particular neuroinformatics in a Malaysian journal.

In 2013 and 2014 Malaysian neuroscience after two important meetings reached another level. Malaysia will finally join the International Neuroinformatics Coordinating Facility (INCF) after recently becoming a member of the Society of Brain Mapping and Therapeutics (SBMT) (Figure 1). The INCF is an international science organisation that facilitates international collaboration of activities and infrastructures in neuroinformatics-related fields. It was established in 2005 by recommendations from the Global Science Forum working group of the Organisation for Economic Co-operation and Development (OECD). The secretariat is hosted



Figure 1: A Memorandum of Understanding was signed between SBMT and USM in the field of brain mapping where future research projects will be coordinated by Associate Professor Dr Zamzuri Idris via the Center for Neuroscience Services and Research.

by the Karolinska Institutet in Stockholm, Sweden. Currently, the INCF has national nodes in 17 member countries. The Executive Director is Sean Hill, and the chairman of the governing board is Jan G Bjaalie from the University of Oslo.

The recommendation to coordinate international efforts in the new field of neuroinformatics was first made in the report on Bioinformatics elaborated under the aegis of the then OECD Megascience Forum in 1998. Following extensive discussions in the Neuroinformatics

Working Group of the Global Science Forum chaired by Dr Stephen Koslow, the proposal to create an International Neuroinformatics Coordinating Facility, as well as the funding Programme in International Neuroinformatics (PIN), was then presented in 2002. This project was endorsed by OECD science ministers at their meeting in January 2004. Australia, Canada, China, the Czech Republic, Denmark, Finland, France, Germany, India, Italy, Japan, the Netherlands, Norway, Sweden, Switzerland, the United Kingdom, the United States and Victoria, Australia as well as the European Commission, then established the working documents that form the legal basis for the INCF and the PIN.

The field of information sciences studies the nervous system, neuroscience concerning studies on the genome to those on brain imaging of behaviours in humans and other species, under different functional states, and at all intervening analytical levels. Large quantities of data, which are constantly increasing to higher levels of complexity have led to the development and creation of shared neuroscience analytical data, and modelling tools as well as computational models (1,2).

Historically, neuroscience and brain science were funded by the Hospital Universiti Sains Malaysia under the Director Dr Haji Ramli Saad (Figure 2), where the neuroscience labs with class 100 and 1000 particle rooms were established for stem cell work, neural cell growth experiments and sophisticated patch clamp electrophysiology and animal behaviour equipment leading to the high-quality publications in this field (3–7). In 2009, the magnetoencephalography equipment followed by the 3 Tesla magnetic resonance imaging equipment with functional software and hardware helped neuroscience advance to the next level.

The beginning of the introduction of trainee lecturers in neuroinformatics, biomedical engineering, cognitive neurosciences and neuropsychology in 2010 has resulted in a metamorphosis of the human resource and the transdisciplinary and translational group of neuroscientists in the campus.

The first neuroinformatics gathering of scientists from Malaysia (Figure 3) (Table 1) with the attendance of Dr Sean Hill from the INCF on the 27th of November, 2013 initiated the second discussion between Dr Sean Hill and Malaysia with the participation of the Universiti Teknologi Petronas as the gate keeper for the next 3 years, which was agreed upon on the 2nd of October 2014 (Figure 4).



Figure 2: Dr Haji Ramli Saad previous Director of Hospital Universiti Sains Malaysia.



Figure 3: Group photo of the first neuroinformatics meeting in Center for Neuroscience Services and Research, Universiti Sains Malaysia 27th October 2013 with the presence of Prof Sean Hill.



Figure 4: Final discussions between INCF represented by Prof Dr Sean Hill with University Technology Petronas Vice Chancellor Datuk Ir (Dr) Abdul Rahim Hashim, Prof Ir Dr Ahmad Fadzil Mohamad Hani, and Prof Dr Jafri Malin Abdullah, Director of P3 Neuro on the 2nd October 2014 at Parry Room, Hotel Le Meridein, Kuala Lumpur.

Table 1: Attendance of neuroscientists from all over Malaysia for the first neuroinformatic meeting

List of Participants Neuroinformatic Course 2013 Date: 27 October 2011 Venue: Seminar Room (1), Student Learning and Resource Block Scholl pf Medical Sciences, Universiti Sains Malaysia (USM)

No	Name	Institution	Email
1	Nur Shafika Razali	School of Mathematical Sciences, USM	shahabel_razali@yahoo.com
2	Nur Izzati Khairudin	School of Mathematical Sciences, USM	zat.khairudin@yahoo.com
3	Nurizatul Syarfinas Ahmad Bakhtiar	School of Mathematical Sciences, USM	syarfinas.ahmad@gmail.com
4	Dr Norhaslinda Kamaruddin	UITM, Shah Alam	norhaslinda@tmsk.uitm.edu.my
5	Prof Dr Abdul Wahab Abdul Rahman	Kull of Information & Communication Technology, IIUM	abdulwahab@iium.edu.my
6	Dr Rosniwati Ghafar	School of Health Sciences, USM	rosni@kk.usm.my
7	Dr Jose Miguel Sanchez Bornot	UTP	bornot@gmail.com
8	Dr Nordin Zakaria	UTP	nordinzakaria@gmail.com
9	Rana Fayyaz Ahmad	UTP	rafayyaz@gmail.com
10	Arslan Shahid	UTP	arslanshahid@hotmail.com
11	Munsif Ali Jatoi	UTP	munsif.jatoi@gmail.com
12	Mumtaz Hussain	UTP	Mumtaz.muett@gmail.com
13	Rasha Haider	UTP	haiderrasha@yahoo.com
14	Raheel Zafar	UTP	raheelsatti@yahoo.com
15	Ehtasham Javed	UTP	rajaehti@yahoo.com
16	Dr Sarat Chandra Dass	UTP	sarat.dass@petronas.com.my
17	Nur Inani Abidin	UNIMAS	inaniabidin@gmail.com
18	Dr Norsiah Fauzan	UNIMAS	
19	Prof Mandava Rajeswari	Science Computer Center ,USM	mandava@cs.usm.my
20	D'ya Sarah Md Shukri		dyaserra@gmail.com
21	Nor Safira Elaina Mohd Noor	UTP	fira_elaina@yahoo.com
22	Dr Mohd Ibrahim Abdullah	UNIZA	ibrahimabdullah@yahoo.com
23	Teo Yong Chang	USM	matthew88teo@gmail.com
24	Wong Jia Hui	USM	jiahui202@gmail.com
25	Azman Samsudin	School of Computer sciences, USM	azman@cs.usm.my
26	Nazeerah Abd Rahman	USM	nazeerah.armanza@gmail.com
27	Dr Mohammed Faruque Reza	Neurosciences, USM	faruque@kk.usm.my
28	Assoc Prof Zamzuri Idris	Neurosciences, USM	zamzuri@kb.usm.my
29	Dr Tahamina Begum	Neurosciences, USM	tahamina@kk.usm.my

(Table 1 continue)

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30	Hussain Azzahari	Neurosciences, USM	hss2_23@hotmail.com
31	Dr Putra Sumari	School of Computer Sciences, USM	putras@cs.usm.my
32	Dr Ho Tatt Wei	UTP	hotatwei@petronas.com.my
33	Nor Hisham	UTP	hishmid@petronas.com.my
34	Muhammad Bilal	Neurosciences, USM	pharmacist1133@yahoo.com
35	Koh Jun Hau	Neurosciences, USM	sunbinthesecond@hotmail.com
36	Rumaisa	Neurosciences, USM	rumaisa.abuhasan@gmail.com
37	Nazirah	Neurosciences, USM	nazirah.mmpum@gmail.com
38	Hazim Omar	Neurosciences, Hospital USM	enhazim@gmail.com
39	Mazira Mohamad Ghazali	Neurosciences, USM	mazira@kck.usm.my
40	Kee Sui Mei	Neurosciences, USM	smkee@kk.usm.my
41	Nuraza Othman	Neurosciences, USM	nuraza@kk.usm.my
42	Nur Amalina Hashim	Neurosciences, Hospital USM	amalina@kk.usm.my
43	Alwani Liyana Ahmad	Neurosciences, Hospital USM	alwani_liyana@yahoo.com
44	Nur Hazira Md Zain	P3Neuro	hazira@kk.usm.my
45	Nurul Aini M. Nashir	Neurosciences, USM	neurosciencespa@yahoo.com

Abbreviations: USM = Universiti Sains Malaysia; UITM = Universiti Teknologi MARA; IIUM = International Islamic University Malaysia; UTP = Universiti Teknologi Petronas; UNIMAS = Universiti Malaysia Sarawak; UNIZA = Universiti Zainal Abidin.

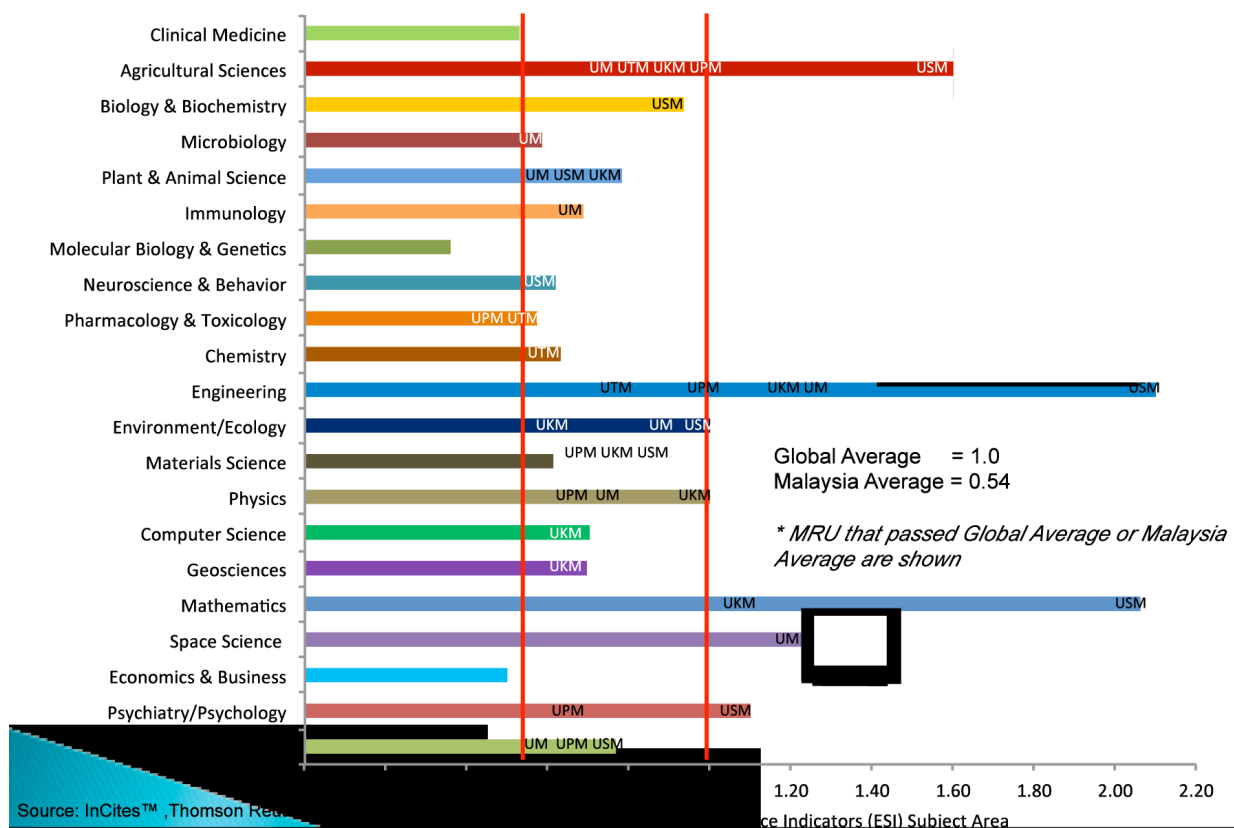


Figure 5: Both psychiatry and psychology has reached the Global Average of Impact Relative to Subject Area of 1.0 and; Neuroscience and Behaviour has reached the Malaysian Average of 0.54.



Figure 6: Allahyarham Mohd Ali Md Salim was a trainee lecturer under Universiti Sains Malaysia.

It is anticipated that neuroscience will flourish (Figure 5), and we hope funds through philanthropy or government initiatives will help establish a strong South East Asian neuroscience centre that will impact solving neurological problems in Asia.

The conclusion of this inaugural editorial ends with its dedication to the tragic sudden loss of Mohd Ali Md Salim, a Malaysian neuroscientist (Figure 6) who was a clinical psychologist pursuing his PhD in the field of Development Neuropsychopathology from the Erasmus University Rotterdam. The plane he was on board Malaysia Airlines Flight 17 was a scheduled international passenger flight from Amsterdam to Kuala Lumpur that crashed on 17 July 2014, presumed to have been shot down and crashed near Torez in Donetsk Oblast, Ukraine. MJMS hopes that neuroscientists will honour him by growing development neuropsychopathology sciences in this country. We enclose one of his publication that he co-authored prior to his sudden demise (8).

Correspondence

Professor Dato' Jafri Malin Abdullah
MD, PhD, FRCS (Ed), FACS, DSCN (Belgium)
Chief Editor
Malaysian Journal of Medical Sciences
Universiti Sains Malaysia Health Campus
16150 Kubang Kerian
Kelantan, Malaysia
Tel: +609-767 6972
Fax: +609-767 2359
Email: mjms.usm@gmail.com

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