Report on
ISN-APSN Advanced School
(Kaohsiung, Taiwan 2014)

August 18-22, 2014

Chang Gung Memorial Hospital,
Kaohsiung, Taiwan, Taiwan

Submitted by
Samuel H.H. Chan
Chair, Local Organizing Committee
Introduction

The ISN-APSN Advanced School (Kaohsiung, Taiwan 2014) was formally approved by the ISN Schools Initiative Committee in an e-mail from the Committee Chair, Dr. Dimitra Mangoura dated June 13, 2014. The Advanced School was held on August 18-22, 2014, in conjunction with the 12th Meeting of APSN (August 23-26, 2014).

Theme of Advanced School

The theme of the Advanced School is “Neuroimaging as a contemporary adjunct to neurochemistry”.

Objectives of Advanced School

There are two main objectives for this five-day ISN-APSN Advanced School (Kaohsiung 2014). The first objective is to introduce advanced postgraduate Students, postdoctoral fellows and junior faculty members or researchers to contemporary neuroimaging methodologies that are complementary to neurochemical studies. The second objective is to provide a platform to enable young scientists from different fields of neurochemical or neuroscience research to meet and exchange ideas and experiences. The School will be held in conjunction with the 12th Biennial Meeting of the APSN, so that the participants can enjoy a wide variety of leading works in neurochemical research.

Key Dates and Events

April 1, 2014 Call for application sent to all APSP members.

April 5, 2014 Call for application announced on the 12th APSN Meeting website.

April 10, 2014 Invitation to Young Investigator Colloquium speakers to apply for the School.
April 17, 2014  Invitation to Postgraduate Student Travel Awardees to apply for the School.

April 30, 2014  20 applications received by the receipt deadline.

May 1, 2014  Application materials sent to adjudicators (Professors Akio Wanaka, Andrew Lawrence, Peter Wong and Yukio Yoneda).

May 16, 2014  Announcement of results of adjudication by e-mail to applicants. 16 students were selected based on research preparedness and accomplishment, sex and regional distribution. 2 of them subsequently withdrew because of family reasons.

May 16, 2014  Announcement of results of adjudication on the 12th APSN Meeting website.

May 28, 2014  Confirmation of attendance from students.

July 1, 2014  General information on School to students.

July 1, 2014  General information on School to overseas faculty.

August 9, 2014  Information on student arrival and transportation to hostel.

August 10, 2014  Invitation of students to attend Congress Dinner

August 11, 2014  Information on airport pickup to overseas faculty.

August 14, 2014  Final instructions for students.

August 17, 2014  Arrival of students to hostel.

August 18-22, 2014  ISN-APSN Advanced School (see detailed activities below).
August 23-26, 2014  12th Meeting of APSN.

August 27, 2014  Departure of students.

**Overseas School Faculty**

**Professor Andrew J Lawrence**  
The Florey Institute of Neuroscience & Mental Health  
Melbourne Brain Centre, Australia

**Professor Caroline Rae**  
Neuroscience Research Australia  
University of New South Wales, Australia

**Professor Akio Wanaka**  
Department of Anatomy and Neuroscience  
Nara Medical University School of Medicine, Japan

**Professor Peter T.-H. Wong**  
Department of Pharmacology  
Yong Loo Lin School of Medicine  
National University of Singapore, Singapore

**Professor Yukio Yoneda**  
School of Pharmacy  
Institute of Medical, Pharmaceutical and Health Sciences  
Kanazawa University, Japan

**Local School Faculty**

**Professor Samuel H.H. Chan**  
Center for Translational Research in Biomedical Sciences  
Chang Gung Memorial Hospital, Kaohsiung, Taiwan, Taiwan
Professor Yu-Fan Cheng
Department of Diagnostic Radiology
Chang Gung Memorial Hospital, Kaohsiung, Taiwan, Taiwan

Associate Professor Chang-Han Chen
Center for Translational Research in Biomedical Sciences
Chang Gung Memorial Hospital, Kaohsiung, Taiwan, Taiwan

Associate Professor Chia-Hao Su
Center for Translational Research in Biomedical Sciences
Chang Gung Memorial Hospital, Kaohsiung, Taiwan

Associate Professor Steve Leu
Center for Translational Research in Biomedical Sciences
Chang Gung Memorial Hospital, Kaohsiung, Taiwan

Associate Professor Sara Chua
Division of Cardiology, Department of Internal Medicine
Chang Gung Memorial Hospital, Kaohsiung, Taiwan

Assistant Professor Wei-Yu Chen
Center for Translational Research in Biomedical Sciences
Chang Gung Memorial Hospital, Kaohsiung, Taiwan

Assistant Professor Tzu-Hsien Tsai
Division of Cardiology, Department of Internal Medicine
Chang Gung Memorial Hospital, Kaohsiung, Taiwan

Assistant Professor Jenq-Lin Yang
Center for Translational Research in Biomedical Sciences
Chang Gung Memorial Hospital, Kaohsiung, Taiwan
Local Staff

Postdoctoral Fellows (acting as group leader and chaperon)

Yung-Mei Chao, PhD
Center for Translational Research in Biomedical Sciences
Chang Gung Memorial Hospital, Kaohsiung, Taiwan

Yi-Ling Chen, PhD – Group D
Center for Translational Research in Biomedical Sciences
Chang Gung Memorial Hospital, Kaohsiung, Taiwan

Faith Chia-Hsin Li, PhD
Department of Physiology, Medical College
National Cheng Kung University, Tainan, Taiwan

Ching-Yi Tsai, PhD
Center for Translational Research in Biomedical Sciences
Chang Gung Memorial Hospital, Kaohsiung, Taiwan

Hannah Wu, PhD
Center for Translational Research in Biomedical Sciences
Chang Gung Memorial Hospital, Kaohsiung, Taiwan

Local Laboratory Assistants - Center for Translational Research in Biomedical Research,
Kaohsiung, Taiwan

I-Chun Chen
Pei-Chia Tsai
Min-Chiao Liao
Kevin Lin
Yu-Chun Chiu
Li-Hsuan Chen
Chun-Yi Tsai
Pei-Rong Lai
Ya-Ting Chang
School Students

Group A

Anindita Banerjee
Assistant Professor
ICARE Institute of Medical Science & Research, India

Su Jing Chan
PhD Student
National University of Singapore, Singapore

Taeko Kimura
Postdoctoral Fellow
Tokyo Metropolitan University, Japan

Prapimpun Wongchitrat
Lecturer
Mahidol University, Thailand

Group B

Gangadharappa Harish
Research Associate
National Institute of Mental Health and Neural Sciences, India

Sarun Koriala
Assistant Professor
BP Koirala Institute of Health Sciences, Nepal

Wilasinee Suwanjang
Lecturer
Mahidol University, Thailand
Ying Yang
PhD Student
National University of Singapore, Singapore

Group C

Pardeep Kumar
Posdoctoral Fellow
Jawaharlal Nehru University, India

Jiayi Li
PhD Student
The Graduate University for Advanced Studies, Japan

Sujira Mukda
Assistant Professor
Mahidol University, Thailand

Group D

Hirokazu Hashimoto
Postdoctoral Fellow
National Institute for Physiological Sciences, Japan

Heather Madsen
Postdoctoral Fellow
University of Melbourne, Australia

Chonlathip Thipkaew
Research Assistant
Khon Kaen University, Thailand
School Activities

(1) Accommodation

All overseas faculty members stayed at Grand Hotel Kaohsiung, a five-star hotel that is 5 minutes driving from the School venue. Daily transportation to and from the hotel was provided.

All students stayed at Chengcing Hostel; each with a single-room with private bathroom, air-conditioning, free WiFi, refrigerator and TV. The hostel is within walking distance from the School venue. During APSN Meeting, daily transportation to and from the meeting venue was provided for the students. Each student is also provided with a card with instructions in Chinese for taxi drivers to take them to Chengcing Hostel, and information on the person to contact in case of emergency.

(2) Venue

All School activities took place at the Center for Translational Research in Biomedical Sciences, Children’s Hospital, Chang Gung Memorial Hospital, Kaohsiung, Taiwan. This Center is the premier research center that spearheads translational medicine in Taiwan. The Center provided state-of-the-art facilities to teach advanced imaging methodologies that include time-lapse microscopy, in vivo imaging (IVIS), ultrasonography, animal MRI and human MRI. These are invaluable methodologies to neuroscientists that are not usually accessible to participants within a single School. By relating these methodologies to disease modalities such as stroke, this ISN-APSN Advanced School enabled participants to acquire new ideas and to learn new techniques and methods that may be beneficial to their future research. The local School faculties are all researchers from this Center who are actively working in neuroscience and neurochemistry, using neuroimaging as their primary research tool.

(3) Advanced Lecture Series

Beginning on Day 2 of the School, each morning began with an Advanced Lecture delivered by one of the overseas faculty.

August 19, 2014

Professor Akio Wanaka

Adult Olig2-positive cells in the brain: implications in pathological and physiological conditions
August 20, 2014

Professor Caroline Rae
Magnetic resonance spectroscopy

August 21, 2014

Professor Andrew Lawrence
Imaging studies in addiction

August 22, 2014

Professor Yukio Yoneda
A wonder of the green tea ingredient theanine

(4) Lecture Series on Translational Medicine

By special arrangement, Professor Yu-Fan Cheng, Chief of Diagnostic Radiology and Director of the Cancer Center, Kaohsiung Chang Gung Memorial Hospital, delivered a lecture entitled, “A clinician's perspectives on clinical imaging” on August 22, 2014. This was followed by a guided tour for the overseas faculty and students to the clinical MRI facilities. In the spirit of translational medicine, this lecture and tour was designed to be the grand finale of the Advanced School and were an eye-opener for all participants.

(5) Technical Lecture Series

On August 18 and 19, 2014, a series of 8 Technical Lectures, 30 minutes each, that are associated with the laboratory hands-on modules was delivered by the local faculty.

L1: Acute ischemic stroke model in rats (Dr. WY Chen)
L2: Chronic cerebral ischemia model in rat (Dr. TH Tsai)
L3: Gene delivery in cultured cells (Dr. CH Chen)
L4: Isolation of primary neuron cells (Dr. JL Yang)
L5: Research applications of time-lapse microscopy (Dr. CH Chen)
L6: Research applications of In Vivo Image System (IVIS) in small animals (Dr. S Leu)
L7: Research applications of magnetic resonance imaging (MRI) in small animals (Dr. CH Su)
(6) Laboratory Hands-on Modules

On August 18-21, 2014, 4 laboratory hands-on modules proceeded in a rotational fashion to allow all students to participate in all modules. These activities took place on the 1st and 11th floor of the Children's Building, Chang Gung Memorial Hospital. A demonstration by the faculty was followed by hands-on experiments by the students. At the conclusion of each module, students are provided with a CD that contains the key experimental observations from that hands-on session.

**Module 1:** Induction of chronic cerebral ischemia (Dr. TH Tsai)

**Module 2:** Preparation of primary neuron cells (Dr. JL Yang)

**Module 3:** Gene delivery for culture cells (Dr. CH Chen)

**Module 4:** Induction of acute ischemic stroke and adipose-derived mesenchymal stem cell (ADMSC) delivery (Dr. JL Yang)

**Module 5:** Time-lapse microscopy: Cell proliferation and migration (Dr. CH Chen)

**Module 6:** Time-lapse microscopy: Migration of mitochondria in neuron (Dr. JL Yang)

**Module 7:** MRI examination of acute ischemic stroke in rats (Dr. CH Su)

**Module 8:** MRI examination of chronic ischemic stroke in rats (Dr. CH Su)

**Module 9:** Tracing ADMSC with IVIS & carotid artery ultrasonography (Dr. S Leu and Dr. TH Tsai)

(7) Presentation of Research Work by Students

In the evening of August 20, 2014, each of the 14 students presented their own research work, aided by power point slides, to the overseas and local faculty. Each student gave a 7-minute talk, followed by a 3-minute discussion. This session was chaired by Professor Peter Wong.

(8) Presentation of Results from Laboratory Hands-on Sessions by Students

In the afternoon of August 22, 2014, each of the 14 students presented a summary of “what I have learnt in the Advanced School”, aided by power point slides prepared from the results obtained during the laboratory hands-on sessions. Each student again gave a 7-minute talk, followed by 3 minutes of questions-and answers. A panel made up of the 5 overseas faculty and chaired by Professor Peter Wong acted as adjudicators. Based on contents, presentation skills and performance during questions-and answers, 1
Gold, 1 silver and 2 bronze awards were given to the best presentations, with a certificate and a respective cash award of USD 300, 200 and 100.

**Gold Award:** Heather Madsen (Australia)

**Silver Award:** Gangadharappa Harish (India)

**Bronze Award:** Wilasinee Suwanjang (Thailand)

Ying Yang (Singapore)

(9) **Presentations of Students at 12th Meeting of APSN 2014**

On August 23-26, all students participated in the 12th Meeting of APSN 2014, including the Opening Ceremony and Welcome Reception, the Congress Dinner, and the Closing Ceremony. In addition, each student presented their work in the form of either Young Investigator Colloquium, oral or poster presentation. The registration fees and congress dinner were paid by the School.

1. Wilasinee Suwanjang  Thailand  YIC
2. Pardeep Kumar  India  YIC
3. Su Jing Chan  Singapore  Oral and poster
4. Anindita Banerjee  India  Poster
5. Gangadharappa Harish  India  Poster
6. Hirokazu Hashimoto  Japan  Poster
7. Taeko Kimura  Japan  Poster
8. Sarun Koriala  Nepal  Poster
9. Jiayi Li  Japan (Chinese)  Poster
10. Heather Madsen  Australia  Poster
11. Sujira Mukda  Thailand  Poster
12. Chonlathip Thipkaew  Thailand  Poster
13. Prapimpun Wongchitrat  Thailand  Poster
14. Ying Yang  Singapore  Poster
(10) School Student Who Received Presentation Awards

Several students were the recipients of presentation awards at 12th APSN Meeting.

*Oral Presentation Award*

**Gold Award:** Su Jing Chan (Singapore)

*Tokuji Ikenaka Award for Best Poster Presentations*

**Silver Medal:** Su-Jing Chan
  
  Ying Yang
Financial Report

Income (New Taiwan Dollars)

1. ISN (first installment) 957,272
2. ISN (second installment) 238,431
3. Donation from Chang Gung Medical Foundation 145,659

**Sum Total of Income**

NTD 1,341,362
~ USD 44,907**

Expenses (New Taiwan Dollars)

1. Airfare for overseas faculty 89,425
2. Airfare for students 386,280
3. Lodging for overseas faculty 73,900
4. Lodging for students 97,200
5. Salary for local faculty 74,000
6. Wages for local staff and assistants 82,880
7. Meals and coffee-and-tea breaks for faculty and students 46,578
8. Welcome and farewell dinner for faculty and students 47,927
9. Transportation 25,527
10. Awards for student presentation 21,140
11. Laboratory consumables (including animals, reagents, antibodies) 170,465
12. Registration fees for 12th APSN Meeting for students 81,000
13. Congress dinner for students 29,400
14. Miscellaneous fees (name tags, certificates, stationery, postage) 16,792
15. Discounted charges for imaging facilities (animal MRI, IVIS, ultrasonography, time-lapse microscopy) 96,000
15. Insurance 2,170
16. Bank transfer fees 678

**Sum Total of Expenses**

NTD 1,341,362
~ USD 44,907**

** 1 USD ~ NTD 29.87**