



Group photo of the 1<sup>st</sup> AOCNS participants

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## AONSA Board Members (January 1, 2012 – December 31, 2013)

### President's message

**By Prof. Yasuhiko FUJII**

*JSNS, CROSS-Tokai*



### The Big Momentum

Under the former Presidency led by Prof. John White, the 1st AOCNS co-organized by JSNS and AONSA last November was such a great and enthusiastic event as nearly 600 worldwide colleagues got together at Tsukuba. The AONSA has greatly appreciated your participation and voluntary monetary contribution as much as 321,000JPY. Your generous support has given the big momentum for AONSA to promote further actions.

During the current two-year term (Jan. 2012 – Dec. 2013), the AONSA aims at the further development of the regional as well as worldwide cooperation. In the Asia-Oceania Region, we will encourage rapidly-growing countries/regions to form their Society participating in the AONSA Executive Committee (EC) as a regular member and a non-registered country/region with/without neutron facility to join us as an observer to exchange information and work together for their domestic community. We are also pursuing cooperation with the Asia-Oceania Forum for Synchrotron Radiation Research (AOFSSRR) because we share the same destiny to protect the so-called "Small Science at Large Facility" (AONSA Newsletter Vol.2, No.1, Feb. 2010).

The largest international event in this term will be the next International Conference on Neutron Scattering (ICNS 2013) at Edinburgh in July 2013. The AONSA is expected to share responsibility as one of allied organizations with ENSA (Europe) and NSSA (North America) forming a tripolar framework covering the globe. Your participation is very welcome and encouraged. We will make our best effort to invite the ICNS 2017 in our Region (Korea) after Edinburgh.

We are looking forward to working with you and receiving your personal views for AONSA.

*[ Prof. Yasuhiko Fujii ]*

Prof. Fujii's career since leaving the Graduate School of Science, Osaka Univ. in 1969 is as follows: 1970-78 Research Associate, Institute for Solid State Physics (ISSP), Tokyo Univ.; 79-82 Associate Physicist, Dept. of Phys., Brookhaven National Lab., USA; 83-87 Associate Professor, Faculty of Engineering Science, Osaka Univ.; 88-91 Professor, Institute of Materials Science, Tsukuba Univ.; 92-2003 Professor, ISSP, Tokyo Univ.; 93-2002 Chair, Neutron Scattering Lab. of ISSP; 2001-04 President, The Japanese Society for Neutron Science; 04 Emeritus Professor of Tokyo Univ.

03-05 Director, Neutron Science Research Center, Japan Atomic Energy Research Institute (JAERI); 05-07 Deputy Director General, Quantum Beam Science Directorate, Japan Atomic Energy Agency (JAEA); 09-10 Director General of above, JAEA; 10-present Director, Research Center for Neutron Science and Technology, Comprehensive Research Organization for Science and Society (CROSS-Tokai) designated as Registered Institution for Advanced Neutron Beam Facility of J-PARC.

11-present Chair of C10, IUPAP (Commission on Structure and Dynamics of Condensed Matter). He was a Japanese Representative for the US-Japan Cooperative Research Program on Neutron Scattering between DOE and MEXT in 1992-2004.

His major research field is neutron and synchrotron x-ray scattering studies of condensed matter, particularly under high pressure.

## Vice-President's message

**By Prof. Wen-Hsien Li**

*Director, Center for Neutron  
Beam Applications, National  
Central University, Jhongli  
Taiwan*



### Recognition and Reaching Out

In November 23, 2011 during AOCNS meeting we celebrated the first AONSA prize award to Professor Noboru Watanabe in recognition not only of his pioneering contribution to the development of accelerator-based neutron facility but also of his great contribution to the establishment of neutron science community. Neutron scattering facility and science have rapidly developed in our Region over the past 30 years. There is no doubt that there are very many great contributors and pioneers who constantly devote their sprit and time into neutron scattering science. As the Vice-President, it is my responsibility and great honor to identify once again the greater contributors and mark their names and sprit into the Hall. The second AONSA prize will be awarded in July 2013 during the upcoming ICNS meeting in Edinburgh, UK. The search will be concluded in the second EC meeting of 2012 for the ceremony in Edinburg.

In my view, AONSA is the stage for communicated cooperation on neutron scattering science in our Asian-Oceania region. As has been pointed out by our Former President Professor John White in the AONSA conference banquet that it is a stage of sharing. I do believe that sharing hardware resources, sharing contributions, sharing ideals, sharing sprit and sharing impact are the ways to success AONSA, to strengthen neutron scattering science in the region. AONSA has grown into a well-organized and functional intercontinental Association through the Presidencies of Professor Mahn Won Kim and Professor John W. White. Under the current Presidency of Professor Yasuhiko Fujii, reaching out to other societies in our region still needs to work harder and provides an easier access for the "outsider" to participate and to share. In addition, the Three President Meeting that open the

dialogue among the International Associations has proved to be very efficient in exchange experiences and ideals in good or in bad. It is also the Vice-President's job to arrange this type of Meeting in proper occasions and it can be expanded to invite Presidents of synchrotron associations as well.

[ Prof. Wen-Hsien Li ]

Prof. Li is a Full Professor of the Physics Department, National Central University, Taiwan. He has been the Director since the Center for Neutron Beam Applications (CNBA) of National Central University was found in 2006.

<http://www.neutron.ncu.edu.tw>

He graduated from Soochow University, Taiwan with a BSc in physics in 1977 and from Northeastern University, Boston, USA with a PhD in Physics in 1986. He has fostered neutron science in National Institute of Standards and Technology (NIST), USA. He contributed very heavily to the birth of Taiwan Neutron Science Society (TWNSS) and Center for Neutron Beam Applications of National Central University.

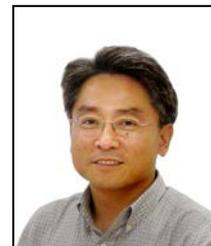
<http://www.neutron.ncu.edu.tw/TWNSS/>

His current research is focused in quantum nanoparticle and multiferroic, using neutron scattering, Raman scattering, and other techniques to elucidate the interplay between the superconducting and magnetic degrees-of-freedom of these systems.

## Secretary's message

**By Professor Sung-Min Choi**

*Department of Nuclear and  
Quantum Engineering,  
KAIST*



### More Beautiful Sounds from Neutrons

I love sound coming from neutron waves which allow us to see the beauty of nature in all details. Over the decades, there have been great advances in neutron sources and instruments in the world, making the sounds more powerful. Over the recent years, these activities have become much stronger, especially in the Asia-Oceania region.

Since its formation in 2008, the AONSA has been a focus of forum to promote neutron science in the Asia-Oceania region. It has been very successful helping to make the sounds of neutron waves coming from different places more harmonious through a series of AONSA Neutron School, AOCNS, EC and Board meetings. The success of these activities is all due to the hard work and participations of all AONSA colleagues and their good spirit of collaboration. I am very much pleased and honored to be a part of these AONSA activities and look forward to continuing our collaborations among all AONSA colleagues to make the sounds from neutron waves more beautiful and harmonious.

**[ Prof. Sung-Min Choi ]**

Prof. Choi studied at Seoul National University for his BS and MS, and received his PhD at MIT in 1998. He was a SANS instrument scientist at the NIST Center for Neutron Research from 1998 to 2001. Since 2001, he has been a faculty member of Department of Nuclear and Quantum Engineering at KAIST. After serving as Director of the Basic Atomic Energy Research Institute (2005-2011), he is currently Director of Advanced Center for Nuclear Excellence (supported by MEST, Korea) of which main goal is to investigate new nano- and bio- materials using neutron scattering techniques (<http://neutron.kaist.ac.kr>).

Over the last years, he has served in various positions to promote neutron science, which include Secretary of AONSA (2010- ), Secretary of the Korean Nuclear Society (2010- ), Member of the HANARO Steering Committee (2006 - ), Secretary of the Korean Neutron Beam Users Association (2003 - 2009), PI of the 40M SANS instrument development at HANARO (2003-2010) and Organizer/Co-organizer of neutron science workshops and schools including the 1st AONSA Neutron Summer School (2008) held at KAIST.

His recent research activities have been focused on the use of SANS, Neutron Spin-Echo, SAXS and GISAXS techniques to understand the structure and dynamics of self-assembled soft nano- and bio- materials.

## Treasurer's message

**By Prof. Samrath Chaplot**

*BARC, Mumbai, India*



AONSA has made tremendous strides in its formative last four years. The first AOCNS in 2011 was an extraordinary success that demonstrated the breadth and depth of AONSA's reach within the Asia-Oceania neutron community. The quality and intensity of the instruments scientists' workshops and its follow up activities resulted in highly fruitful and informal interactions among the community. Significant progress was also made to achieve cooperation with other partner organizations within the region as well as in other regions. I join others in complementing the organizers and the AONSA Board and Executive for this immensely satisfying outcome. Today AONSA is a robust organization and we will together endeavor to further promote the AONSA activities and scale newer heights.

My colleagues in Neutron Scattering Society of India (NSSI) and I send warm greetings to readers of this Newsletter.

**[ Prof. Samrath Chaplot ]**

Prof. Chaplot is a Senior Professor and Head of the Solid State Physics Division at Bhabha Atomic Research Centre, Mumbai, India. He was a Research Associate at University of Edinburgh, U. K. (1979-1981), and an Alexander von Humboldt Fellow at Forschungszentrum Karlsruhe, Germany (1992-1993). He is a recipient of the Homi Bhabha Award for Science and Technology, presented by DAE, India (1994); an elected Fellow of the National Academy of Sciences, India; and an 'Outstanding Referee' of Physical Review Letters and Physical Review, as selected by American Physical Society. His research is focused on neutron scattering experiments, lattice dynamics and molecular dynamics computer simulations to investigate the structures and dynamics of condensed matter. He is presently the President of the Neutron Scattering Society of India.

## Public Relations Officer's message

By **A/Prof. Chris LING**

*The University of Sydney*



### Neutrons in the Asia-Oceania Region

My role on the AONSA Board is a newly created one, which I hope will turn out to be genuinely useful to the Asia-Oceania neutron community. While I will obviously be specifically charged with overseeing the AONSA newsletter and website, in more general terms I will be acting as the interface between you – the scientists who use neutron beam facilities – and the broader regional community. This means explaining to governments and the general public why neutron scattering is an important activity of great value to the region, which should be supported in the face of perceived economic and environmental concerns. CERN, for example, engages very effectively in this sort of public relations.

One way in which we are doing this is through participation in the new [Wiki-Neutrons.org](http://Wiki-Neutrons.org) project. This will be a central repository of articles about neutron scattering aimed at industry, government and media organisations, rather than scientists, with the core aim of explaining, essentially, why neutrons are important. The articles will address the differences between the design and purpose of neutron scattering and nuclear power facilities; the sorts of scientific and

applied questions that neutrons can answer; and provide examples of important work that could only have been carried out using neutrons. Over the coming months I will be contacting some of you with requests for brief articles of the latter type, describing the role of neutron scattering in your high-impact work. It is important that we have a strong presence in such international projects, in order to demonstrate to our own national governments and communities that their investments are being returned through specifically local economic, environmental and cultural benefits as well as status in the international scientific community.

I look forward to working with you over the next two years in this capacity.

*[ A/Prof. Chris Ling ]*

A/Prof. Ling has been an academic staff member of the School of Chemistry at The University of Sydney since 2004. Prior to this he was an instrument scientist in the Diffraction Group at the Institut Laue-Langevin, France (2001–2004) and a Postdoctoral Fellow in the Materials Science Division at Argonne National Laboratory, USA (1999–2001). He carried out his PhD studies at the Australian National University (1996–1999) and his undergraduate studies at the University of Melbourne (1992–1994).

In addition to his role on the AONSA Board and Executive he is currently President of the Australian Neutron Beam Users' Group (ANBUG), Chair of the Materials Division of the Royal Australian Chemical Institute (RACI) and Chair of the NSW Synchrotron Consortium (AUSyn14).

His research interests are primarily solid-state oxide chemistry / condensed matter physics, emphasising complex magnetism, ionic conduction and modulated structures. All of these materials and phenomena are ideally suited to study by neutron scattering techniques (primarily diffraction, but also inelastic and sometimes small-angle scattering), hence his intensive use of neutrons and close involvement with the neutron user community.

## Report from ANBUG



The Australian and New Zealand neutron scattering communities have been benefiting over the last 6 months from what is almost certainly the most sustained period of reliability of our local neutron source, OPAL. This includes the previously problematic cold source (although users should note that this will be shut down for at least 6 weeks while a new cold neutron guide is installed in November 2012). Moreover, ANSTO is now actively pursuing the project to build a second guide hall, which (if funded) would be accompanied by an extensive suite of new instruments that will cover the full range of techniques. A workshop to discuss the first round of instruments for the second guide hall will be held in mid-April. We are wholeheartedly behind the project and look forward to the outcome.

At the same time, ANBUG is concerned by the Australian Government's termination of the Access to Major Research Facilities Program, which Australian neutron users relied upon heavily for access to international sources, particularly spallation sources with their important complementarity to reactor sources such as OPAL. Lobbying to restore or replace the fund is continuing through all available channels. In the meantime, a bid for travel support to international neutron spallation sources (ISIS, JSNS, SNS, LANL *etc*) is being pursued through the Australian Research Council (under the LIEF scheme).

ANBUG is moving towards financial sustainability with the decision at the last AGM (held on 22/11/11 in Tsukuba, Japan, during AOCNS) to institute a small surcharge at our local meeting, the ANBUG-AINSE Neutron Science Symposium, which will support our participation in AONSA and provide seed funding for larger meetings such as AOCNS and ICNS when they are held under our auspices. We will, however, retain our existing model of free membership.

ANBUG and ANSTO hosted the 4<sup>th</sup> AONSA School was held at ANSTO, due to the impossibility of holding this in Japan following the 2011 earthquake. The School was a great success, as reported elsewhere in this newsletter.

Finally, ANBUG is proud to have won the right to host the second Asia-Oceania Conference on Neutron Scattering (AOCNS) in 2015. We have already started preparations, knowing that we have a very high standard to match following first AOCNS organised by JSNS. We hope to see you all there.

**Chris Ling**

*President, ANBUG*

## Report from TWNSS



### Concurrent Efforts with NSRRC

A new strategic neutron promotion program of the Concurrent Efforts between the National Synchrotron Radiation Research Center (NSRRC) and the Taiwan Neutron Science Society (TWNSS) has debuted. The new promotion program is going to cover the coming period when Taiwan neutron-related research society is likely to experience major changes arising largely from the rapid collaborations with the Asia-Oceania partners as well as the development of the Taiwan team in Australian Nuclear Science and Technology Organisation (ANSTO).

Dr. Di-Jing Huang, the Deputy Director of the NSRRC, and Dr. Chia-Hung Hsu outlined the exciting features of this new strategic plan during the 2012 TWNSS annual meeting in February.



Dr. Di-Jing Huang presenting the concurrent efforts and the supports from the NSRRC for Taiwan neutron society. Dr. Chia-Hung Hsu (in the middle) and Prof. Hsi-Mei Lai (President of TWNSS, on the right) are in the front seats.

The emphasis of the Strategic Plan on education and international neutron experiments is a considered response to the aforementioned changes. The joint efforts between the TWNSS and NSRRC seek to provide Taiwan research society with the best neutron access opportunities by outreaching and training for the expected international collaborations. The scheduled concurrent Education and Travel Support Plan demonstrates the commitment to excellence in neutron research for both new and regular users.

One of the examples is our growing TWNSS annual education workshop in the Sun Link Sea Forest Resort (<http://www.goto307.com.tw/index.php>). Prof. Chung-Yuan Mou's gave the plenary speech. Prof.

Mou is a National Chair Professor. He is also the University Chair Professor of the Department of Chemistry of the National Taiwan University. His lectures highlighted the fundamental concepts of the neutron applications. He also pointed out the future directions of the neutron research for the young generations to challenge themselves. During the workshop, Dr. Yong Nam Choi of the Korea Atomic Energy Research Institute (KAERI) introduced the status of the High-Flux Advanced Neutron Application Reactor (HANARO) and the ongoing users' activities in KAERI.



Prof. Chung-Yuan Mou's plenary speech in the TWNSS annual education workshop in the Sun Link Sea Forest Resort.

### Active International Collaborations

Taiwan neutron research activities are vibrant, but not limited in Taiwan locally. For example, in 2011, 61 scientists and graduate students received the travel support from the National Science Council (NSC)-NSRRC Neutron Program to conduct the neutron experiments and the neutron training, respectively. NSRRC is also seeking candidates for group leader and scientists for the development of the Taiwan Neutron Program at ANSTO. Applicants could contact Ms. I-Hui Kuo at ([kuo.jennifer@nsrrc.org.tw](mailto:kuo.jennifer@nsrrc.org.tw)). Likewise, Dr. Wei-Ren Chen, who is one of the first two Shull fellowship awardees in 2006, just wins the Career Award from the Department of the Energy (DOE), United States for his neutron research. Wei-Ren graduated from the National Tsing Hua University and he received his PhD from the Massachusetts Institute of Technology. He applies small-angle neutron scattering to investigate the synthetic molecules and their possible biomedical applications.

**His-Mei Lai**  
President, TWNSS

## Neutron meets the 2<sup>nd</sup> ASEAN Workshop on Small Angle X-ray Scattering (AWSAXS 2011) in Thailand

The 2<sup>nd</sup> ASEAN (Association of Southeast Asian Nations) Workshop on Small Angle X-ray Scattering (AWSAXS 2011) was organised remarkably on March 6 - 8, 2012 at the Synchrotron Laboratory Research Institute (SLRI) in Nakhon Ratchasima, Thailand. The workshop was rescheduled to March 6 - 8, 2012 due to flood situation in Thailand last year. This workshop aimed to give practical training on Small Angle Scattering (SAS) data analyses to users and potential users of the Small Angle X-ray Scattering (SAXS) beamline at SLRI as well as to initiate collaboration among SAS user communities in ASEAN countries.

Seeing as neutrons are a complementary scattering probe to X-rays, an introduction to Small Angle Neutron Scattering (SANS) theory, application and facilities was delivered by Dr. Joachim Kohlbrecher of the Laboratory for Neutron Scattering, Paul Scherrer Institute, Switzerland and Dr. Edy Giri Rachman Putra of the Neutron Scattering Laboratory, National Nuclear Energy Agency of Indonesia (BATAN), Indonesia. SAS data analysis training using SASfit program developed by Dr. Kohlbrecher was the main activity of the workshop for introducing the users to extract the SAS data.

There were in total 7 students from Indonesia and Malaysia supported by SLRI to attend the workshop. Most of them are potential SAS users, either X-ray or neutron. This is a good sign as there is presently a neutron facility at BATAN in Serpong, Indonesia which consists of 7 neutron beam instruments and utilizes the powerful 30 MW G.A. Siwabessy research reactor (RSG-GAS). This facility is also open to users, especially from ASEAN countries. Nevertheless, the number of neutron users and the activity in the region are small and limited. The regional seminar and workshop were designed to accommodate not only neutron scattering, but also X-ray users have been initiated several years ago. We believe that many potential users in the region who can be attracted to utilise respectively the neutron and X-ray synchrotron facilities in Serpong, Indonesia and Nakhon Ratchasima, Thailand.

From the AWSAXS, we have a similar perspective to raise the number of users in neutron or X-ray synchrotron by holding regular activities in the region. A neutron and X-ray scattering workshop or conference should be arranged frequently in the region to attract more users among the ASEAN countries. International organizations such as IUCr (International Union on Crystallography), ICTP (International Center for Theoretical Physics) and IAEA (International Atomic Energy Agency) would be able to facilitate and to support the users and students from ASEAN countries to utilize the neutron and synchrotron facilities in Indonesia and Thailand.

By bringing our spirit as well as friendships and networking in the ASEAN region it will revive and enhance neutron and X-ray users in the Asia-Oceania region. Now, we all motivated to build up strong neutron and X-ray user groups through the Asia-Oceania Neutron Scattering Association (AONSA) and Asia-Oceania Forum for Synchrotron Radiation Research (AOFSSR).



Dr. Supagorn Rumai (SLRI) and Dr. Edy Giri Rachman Putra (BATAN) are among the Indonesian and Malaysian students at the AWSAXS2011

**Edy Giri Rachman Putra**

*National Nuclear Energy Agency (BATAN) Indonesia*

## Calendar of AONSA Activities

(as of 2012/4/20)

### Year 2011

Date (M/D)	Events
2/20	AONSA Board Meeting (Narita, Japan)
2/23	The ENSA-NSSA-AONSA Chairman-Presidents' Meeting (Tokai, Japan)
2/28	Deadline for nomination for the AONSA Prize 2011
4/27	AONSA Newsletter Vol.3 No.1 (Apr. 2011)
5/19-20	The 6 <sup>th</sup> AONSA EC Meeting (Bandung, Indonesia)
6/27-7/1	ICNX 2011 (Hsinchu, Taiwan)
7/17-7/22	European Conference on Neutron Scattering (Prague, Czech)
8/23-8/31	XXII Congress and General Assembly of the International Union of Crystallography (Madrid, Spain)
10/24-10/28	The 6 <sup>th</sup> AOFSSR Workshop (Bangkok, Thailand)
11/12-11/17	The 4 <sup>th</sup> AONSA Neutron School (ANSTO, Australia)
11/20	The 7 <sup>th</sup> AONSA EC Meeting (Tsukuba, Japan)
11/20-11/24	The 1 <sup>st</sup> AOCNS (Tsukuba, Japan)
11/22-11/25	IAEA Technical Meeting (Tsukuba, Japan)
11/28-12/1	Polymer Conference (Bali, Indonesia)
12/16	AONSA Newsletter Vol.3 No.2 (Dec. 2011)

### Year 2012

4/20	AONSA Newsletter Vol.4 No.1 (April 2012)
5/22	The 8 <sup>th</sup> AONSA EC Meeting (Kajang, Malaysia)
7/29-8/2	M2S-X (Washington DC, USA)
Fall	The 9 <sup>th</sup> AONSA EC Meeting (TBA)
10/22-10/26	The 5 <sup>th</sup> AONSA Neutron School (Beijing, China)
11/7-11/9	The 10 <sup>th</sup> AINSE-ANBUG Neutron Science Symposium (Lucas Heights, Australia)
11/16	AONSA Newsletter Vol.4 No.2 (Nov. 2012)
11/18-11/23	The 15 <sup>th</sup> International Small-Angle Scattering Conference (Sydney, Australia)
12/2-12/6	The 12 <sup>th</sup> Conference of the Asian Crystallographic Association (Adelaide, Australia)

### Year 2013

1/14-1/17	2nd International Symposium on Neutron Scattering (ISNS) (Mumbai, India)
7/7-7/11	The 10 <sup>th</sup> International Conference on Neutron Scattering (Edinburgh, UK)

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