AONSA NEWS LETTER

Vol. 10, No. 1 (Sept, 2018)

The 20th AONSA EC Meeting in Kuala Lumpur, Malaysia

Contents

President's Message

By Brendan Kennedy

It is a great honor to write my first Newsletter message as AONSA President. As I find my feet in the role my first thought is how lucky we have all been to have been guided by Sung-Min Choi for the past two years, and then my second thought is how can I possibly match his contributions? Nevertheless I will try to maintain the momentum the previous AONSA Boards have installed in our organization.

Having recently had the privilege of reviewing the neutron scattering program at ACNS/ANSTO and had the opportunity to visit MLF/J-PARC I am struck by how strong our international interactions and collaborations are. Whilst this has partially been driven by necessity, associated with the prolonged shutdown of HANARO and JRR3, and the developments in China it also reflects the importance of AONSA in promoting neutron scattering across the region. One the more remarkable features of the international use of the regional neutron scattering facilities is that this occurs despite the distances in our region and the lack of a coordinated international access program similar to that available to our European colleagues. I hope that with HANARO restarted (and a timetable for the re-start of JRR3 established) these international collaborations will continue to flourish. These interactions are the reason AONSA exists and I would welcome any suggestions for new initiatives that will further strengthen neutron scattering in our part of the world.

At the recent Executive Committee meeting in Malaysia we heard about the exciting developments in the region, including the plans to increase the operating power at J-PARC and the development of a new accelerator source at Nagoya. Congratulations to our colleagues at the Chinese Spallation Neutron Source, not only are they producing neutrons these neutrons have already resulted in a publication describing the science conducted using them!

Planning is now well underway for the 10th AONSA Neutron School that will be held at ACNS/ANSTO in November this year. This annual School is one of the highlights of the AONSA year and I am looking forward to talking with the students about their plans to use the regions neutron sources.

Reports on the 20th AONSA Executive Committee Meeting

The 20th AONSA Executive Committee Meeting was held on Monday June 25th, 2018, at the Malaysian Nuclear Agency, Malaysia. Eighteen participants travelled to Selangor for the meeting, consisting of eight Executive Committee (EC) members, nine observers representing neutron facilities in the Asia-Oceania region, and one special observer. They were welcomed and joined by eleven local participants including one observer. Brendan Kennedy chaired the meeting for the first time as the AONSA President. His opening remark was followed by the welcoming message from Dr. Abdul Muin Bin Abdul Rahman, the Deputy Director General of the Malaysian Nuclear Agency. After the agenda was approved by the members, the minutes of the 19th EC meeting held in Bangkok, Thailand, was reported and approved. It was then reported by Kenji Nakajima on behalf of Hideki Seto, who had to cancel the travel due to physical problems at the last minute, that Misono Fujii recently replaced Chikako Doda as the secretary of the AONSA Office.

Hsiung Chou reported on the AONSA Annual Fee and Budget Plan, and the AONSA Prize Fund and Budget Plan. The 2018 annual fees were paid by 4 out of 7 member societies 25th June, while the rest are anticipated to pay sooner or later. The prize fund increased significantly due to the transfer of donations from the annual fee account. A discussion item was put forward regarding the financial supports for postdocs from developing countries to stay two more weeks in facilities after their experiments.

Dongfeng Chen reported on the nominations of the Selection Committee (SC) for the 5th AONSA Prize, which consist of seven members chaired by the Vice President along with other six suggested by member societies. The EC approved the formation of the SC with no objections. The SC will announce Call for Nominations, the deadline for which is August 15th. The SC will then nominate the recipient in six weeks from above. If approved in the 21th EC meeting in November 2018, the award ceremony will take place at the 5th AOCNS in November 2019, Taiwan[1].

Hsiung Chou reported on the status of TWNSS preparations to host the 3rd AOCNS in 2019, which will be held in Kenting, Taiwan. The meeting date was reconsidered to be Nov 3-6, which is one week earlier than the previously suggested schedule. The possible change was intended to encourage local students to attend who would otherwise be having final exams during the AOCNS. The possibility is mentioned of extending one more day in case the number of abstract submissions is exceptionally high. JSNS and ANBUG expressed their intentions to cancel their respective Annual Meetings and hold General Assemblies during the 3rd AOCNS. Brendan Kennedy added that he will invite the Presidents of NSSA and ENSA to give talks at the 10th AOCNS, which will provide a natural route to the Three President Meeting.

Jaime Schulz on behalf of Tracy Rushmer reported on the 10th AONSA Neutron School scheduled to be held at ANSTO in November 11 – 16 2018. The details of the program are available online at aonsa2018.sydney. In total 53 applications were collected to compete for 30 available seats. Successful applicants will be notified by 6th July, and the registration fee of AUD450 will cover all local costs. Financial supports from facilities, societies and universities were solicited either directly to the School or paying travel costs to participants.

Dongfeng Chen reported on the progress of AONSA Young Research Fellow (YRF) Selection Committee, which should consist of 7 members chaired by the Vice President. Six members of the YSF Selection Committee were suggested by the member societies, and approved unanimously by the EC members. Call for nomination for 2019 AONSA YRF will be announced in July 2018 with the deadline for application set on 31st August. The applications will be circulated for review among the Selection Committee members during the following month, followed by the final selection by November 2018 and the official approval during the 21st EC in Sydney[1]. Potentially as a future program for the AONSA YRF, a scheme was discussed for supporting postdocs from developing countries to stay for two additional weeks after the beam time experiment is finished. It is designed to assist early career scientists who need guidance for data analysis.

Jae-Ho Chung on behalf of Taku Sato announced the Newsletter Vol 10 No 1 should be ready for distribution by 31st July 2018. To meet this schedule, the members were requested to submit articles by the deadline on 30st June 2018. Toshiji Kanaya, Chair of the AONSA Facility Directors Meeting held the previous day, updated EC members and observers on the status of neutron facilities in the region, and reports were presented by representatives of all the AONSA member societies on local activities and developments in their home countries.

In closing the meeting, President Brendan Kennedy thanked Abdul Aziz Mohamed and all the Malaysian hosts for organizing the 20th EC and 14th FDM. The 21st EC Meeting will be held at ANSTO in Sydney, Australia, on November 17, 2017, following the 10th AONSA Neutron School.

Jae-Ho Chung
(Secretary of AONSA)

Group photo of the 20th AONSA Executive Committee Meeting in Bangi, Malaysia

[1] Editorial note: due to the delay of this news letter publication, the deadline was renewed as Sept. 27, 2018.

Report on the 15th Asia-Oceania Neutron facility directors meeting (AONFDM)

On November 24th, 2018, the 15th Asia-Oceania Neutron Facility Directors Meeting (AONFDM) was held at Danau Golf Club, UKM, in Malaysia. The participants were Fangwei Wang (CSNS), Sungil Park (HANARO), Toshiji Kanaya (J-PARC), Masayasu Takeda (JRR-3), Jamie Schulz (OPAL), Kai Sun (CARR), Gong Jian (CMRR) and Iwan Sumirat (G. A. Siwabessy). Furthermore, Brendan Kennedy (U Sydney), Dongfeng Chen (Chin Inst of Atomic Energy), Sung-Min Choi (KNBUA/KAIST), Hsiung Chou (TWNSS/ National Sun Yat-Sen Univ.), Yoshiaki Kiyanagi (JSNS/Nagoya Univ.), Kenji Nakajima (J-PARC), Apichate Maneewong (TINT), Abdul Aziz Mohamed (UNITEN) and other Malaysia colleagues attended as observers.

The meeting was chaired by Toshiji Kanaya from J-PARC. At the beginning, attendees introduced themselves, confirmed the purpose and the role of the FDM, approved the agenda, reviewed the last meeting notes, and then facility representatives gave a report about their facility according to the new matrix proposed by Sungil Park. First, CSNS: Fangwei Wang reported that CSNS transferred from its construction state to commissioning state and joint commissioning of three dayone instruments lasts for about 40 days with neutrons. (2) HANARO: Sungil Park reported that the reactor restarted on May 15, 2018 and scientific experiments have been performed since June 10, 2018. Now 6 instruments are operational, 3 have issues, and 2 instruments will be soon commissioned. (3) J-PARC: Toshiji Kanaya reported that operation of new target (#8) is very stable at 500 kW and the target will be exchanged to a new one (#10) in the summer shutdown 2018. (4) JRR-3M: Takeda reported that the operational license is expected to be issued by the end of August, 2018. JAEA research activities carried out at overseas as well as in domestic and ISSP continues to support access to international facilities for Japanese researchers. (5) OPAL: Jamie Schulz reported OPAL Reactor/ACNS Milestones: 10 years of neutron beam operations, 100 reactor cycles, and 1000 scientific journal articles. (6) CARR: Kai Sun reported the improvement in CARR such as compressed air system, electrical system, cooling water, ventilation, and they are preparing for the operation license application. (7) CMRR: Gong Jian reported that CMRR is a 20MW research reactor, its operation time is 150 days 2017 and will be 180 days 2018. (8) G. W. Siwabessy: Iwan Siwabessy reported that BATAN's neutron facility is based on Reactor of 15MW for 150 days operation, 8 instruments are running and 30 staffs are working. P. U. Sastry was absent in the meeting, but the report from BARC was presented by Toshiji Kanaya. Finally, PUSPATI TRIGA Reactor was introduced by Muhammad Rawi Mohamed Zin.

There were no items in discussion on the challenges, opportunities and cooperation of neutron facilities. In other business, we discussed possible numbers for AONSA Young Research Fellows 2020 round in each facility: OPAL(1-2), J-PARC(1), CSNS (1), HANARO(0), CMRR(0), BATAN(0), CARR (2, but no beam). We also discussed a possibility to make facility home page on AONSA website, and transferred this item to the EC meeting. It was decided that Next

AONSA Neutron School 2019 will be held in HANARO.

After the meeting the FDM members and the observers enjoyed the dinner at Cibiuk. The next AONFDM will be held in Sydney during the AONSA neutron school, 2019.

Toshiji Kanaya (J-PARC)

Fangwei Wang (CSNS), Sungil Park (HANARO), Toshiji Kanaya (J-PARC), Masayasu Takeda (JRR-3), Jamie Schulz (OPAL), Kai Sun (CARR), Gong Jian (CMRR) and Iwan Sumirat (G. A. Siwabessy). Observers: Brenda Kennedy (U Sydney), Donfeng Chen (Chin Inst of Atomic Energy), Sung-Min Choi (KNBUA/KAIST), Hsiung Chou (TWNSS/ National Sun Yat-Sen Univ.), Yoshiaki Kiyanagi (JSNS/Nagoya Univ.), Kenji Nakajima (J-PARC), Apichate Maneewong (TINT), Abdul Aziz Mohamed (UNITEN) and Malaysia colleagues.

Reports from neutron associations

Australian and New Zealand Neutron Beam Users' Group (ANBUG)

The membership of ANBUG is currently around 330 researchers, with many students and early career researchers. The main regular activity is the ANBUG-AINSE Neutron Scattering Symposium (AANSS 2018), which returns to Sydney this year after the inaugural combined ANSTO User Meeting (AUM) in Melbourne in December 2017. The AUM was a successful way of bringing the users of synchrotron radiation, neutron beams and accelerators together under the ANSTO banner and the neutron user community was well represented. The pattern of alternating between combined ANSTO User Meetings and AANSS will continue into the future.

ANBUG has a strong focus towards the support of students and early career researchers in partnership with AINSE and students from AINSE member institutions are entitled to apply for travel scholarships for AANSS 2018.

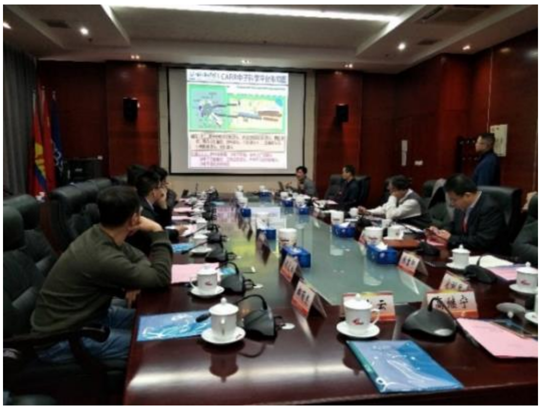
This year members of the Executive Committee come to the end of their two-year terms and we are currently inviting nominations for new members. The current President, Ian Gentle, will become the Immediate Past-President at the AGM to be held during AANSS, while the President-Elect, Tracy Rushmer, will take over the leadership of the Executive. An election will be held for other positions on the Executive.

Other activities of ANBUG include representing neutron beam users at the Australian Centre for Neutron Scattering (ACNS) Advisory Committee and the ACNS and National Deuteration Facility Program Advisory Committee. The ANBUG Career Award and the ANBUG Neutron Award for Outstanding Research will both be offered again in 2018.

Ian Gentle and Tracy Rushmer (ANBUG)

Report from Chinese Neutron Scattering Society (CNSS)

Status of neutron sources in China: During Mar. 10-13, 2018 , the China Spallation Neutron Source(CSNS) fulfilled the technical tests for accelerator, target station and instruments, which were organized by the experts from the Chinese Academy of Sciences(CAS). The first experiment result at CSNS was published in Nano Energy, on Apr. 17, 2018. The China Mianyang Research Reactor(CMRR) has run more than100 days in the first half year. Some good neutron diffraction results have been published in JACS and Nano Energy by users from Soochow University and University of Science and Technology of China. University. The in-situ sample environment devices and three new neutron spectrometers has finished design and main parts are being purchased. On April 18, 2018 the China Advanced Research Reactor User Meeting was successfully held at China Institute of Atomic Energy (CIAE), Beijing. The meeting was chaired by Prof. Dongfeng Chen, the Director of the department of Nuclear Physics, CIAE. More than 40 experts attended the meeting. Development and current situation of China Advanced Research Reactor (CARR) was reported by Prof. Weiping Liu, the Vice President of CIAE. Moreover, the operating plan for CARR was introduced by Prof. Yulin Wang, who is responsible to the CARR operation. Obviously, the beam time in 2018 was longer than usual. In addition, many users from various research fields also attended the meeting. The prospective demands for neutron beams were put forward by Dr. Wenyun Yang from Peking University, Dr. Peng Cheng from Renmin University of China, Prof. Xiangfeng Liu from University of Chinese Academy of Sciences and other universities and institutes. It is also expected that better achievement would be obtained at CARR in 2018.



Proposed by the Department of Technological Sciences and the Department of Mathematical and Physics of the CAS, approved by the conference of the Academic Divisions of the Chinese Academy of Sciences (CASAD), the Disciplinary Development Strategy Research Project "the development of neutron science and neutron technology" was established. The goals of this project include: 1) advice on the key research areas and the priority development directions related to neutron science and technology, and guidance for the user development of neutron source devices;2) Submit the reports of neutron sources and neutron spectrometer construction, and related neutron scientific and technological development strategy to the CAS and the National Natural Science Foundation of China.

On Dec. 15,2017, the kick - off meeting for "the development of neutron science and neutron technology" was held in CSNS. The meeting focused on four topics: areas:1) materials science and engineering; 2) condensed matter physics; 3) neutron scattering science and technology; 4) nuclear physics and nuclear technology.

On Jun. 29, 2018, the second meeting of the project was held in CSNS, More than 20 experts from the Institute of High Energy Physics, CAS, Institute of Physics, CAS, the China Academy Of Engineering Physics(CAEP), Peking University, University of Science & Technology Beijing, and Shanghai Jiao Tong University, etc, attend the meeting, and gave oral talks to share their recent progress of 4 main research and application directions of Neutron science and neutron technology.

Hesheng Chen (CNSS)

Report from the INSS 2018 Activities Indonesian Neutron Scattering Society

Promoting Neutron Science in Indonesia

During the establishment of the INSS in the last three years, we have still continued and focused on the activities to share and promote the neutron science for students and young scientists, as efforts of increasing number of members and neutron users in the whole country, by organizing workshops, lectures, research dissemination, coaching, and career session on the related topics. In 2018, there have already been 6 activities conducted in Ambon (Maluku), Semarang (Central Java) and mostly in Serpong (Banten).

The planned workshops will also be held in this year in Lampung (South Sumatra), Samarinda (East Kalimantan) and Manado (North Sulawesi). Number of students and young lecturers/researchers from around 2 – 3 universities in each city will be invited to join the workshops.

Fig. 1 Dissemination of nuclear science at University of Pattimura, Ambon, 27-28 March 2018.

Activities in ASEAN Region

Across the societies especially in the region of South East Asian Countries (ASEAN) is one of important keys to develop INSS in future. To realize it, The 1st Meeting of ASEAN Large Nuclear and Synchrotron Facility Network (LNSN) was successfully conducted in Bangkok, Thailand, 25-26 September 2017. This was further followed by Joint Workshop for Skills and Industry Program for Synchrotron and Large Scale Facilities, 12 – 14 December 2017, also in Bangkok, Thailand. In this workshop, the Indonesian delegate has promoted an inelastic neutron scattering for catalyst project, which was led by Indonesian Institute of Science (LIPI).

Fig. 2 Joint Workshop for Skills and Industry Program of Synchrotron and Large Scale Facilities,12 – 14 December 2017, Bangkok, Thailand.

Student international internship has also been developed to intensify this ASEAN network scheme. Training, workshop, and experimental activities have been performed in 2017 – 2018 by students from Polytechnic Institute of Nuclear Technology, Yogyakarta, Institute of Technology Sepuluh Nopember (ITS) Surabaya, and State University of Malang (UM), using synchrotron – based facilities at Siam Photon – Synchrotron Light Research Institute (SLRI), Thailand.

Fig. 3 Student International Internship at SLRI, Nakhon Ratchasima, Thailand.

INSS in collaboration with universities regularly invites as well scientists and experts from Asia and ASEAN to share the applications of beam lines such as neutron, synchrotron and muon. The use of synchrotron for ellipsometric spectroscopy to study the gap states in condensed matters was given by Prof. Andrivo Rusydi from National University of Singapore (NUS) at ITS Surabaya, 18 December 2017. Meanwhile, a muon scientist, Dr. Isao Watanabe, from RIKEN Nishina Center Accelerator – based Laboratory, Japan, has shared with students and lecturers at ITS Surabaya on the topic of muon science for materials characterization, 23 January 2018.

Fig. 4 Lecture on Muon Science at ITS Surabaya, 23 January 2018, by Dr. Isao Watanabe, RIKEN Nishina Center, Japan,

Development of Publication Media

The INSS also supports the publication of Atom Indonesia, an international journal related to nuclear and science technology published by BATAN. A very good news, that this year, our Journal has been indexed by Scopus and becomes one of the best journal in Indonesia. An International Atom Indonesia Best Paper Award (I-AIBPA) was recently organized, and pleased to inform that the winner is Z. Tan et al, from the KEK, Japan. This is shown how important and appreciation of the neutron scattering application on materials research (http://aij.batan.go.id). The winners of best papers was awarded the prize US$ 700, and certificate.

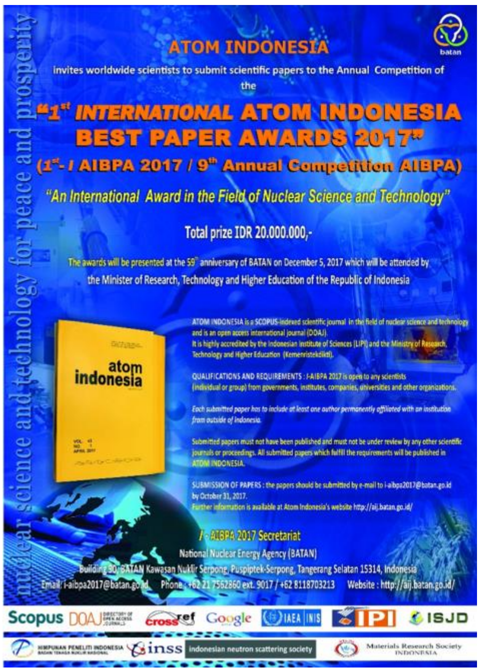


Fig. 5 The journal of ATOM INDONESIA, supported by INSS.

ICA-IUMRS –Bali, October 30-Nov.2,2018

One of the most notable events will be the International Conference in Asia of the International Union of Materials Research Society (ICA-IUMRS), that will be held in Bali in October 30 – November 2, 2018. The conference will be jointly organized by the Indonesian Materials Research Society (MRS-INA, http://www.mrs-ina.org), AONSA and INSS. We are planning to invite the AONSA colleagues, and inserting in the conference AONSA neutron school or workshop for materials characterization. This will be very important to promote neutron scattering directly to the materials scientists.

Fig. 6 The leaflet of ICA – IUMRS 2018.

Participations in AONSA Neutron School

In the end of 2017, INSS selected several candidates to attend the AONSA neutron school in J-PARC Japan. There were four researchers and students attended the school, namely Dr. Maykel Manawan (UI), Dr. Wisnu Ari Adi (BATAN), Heri Jodi M.Eng (PhD Student, UI), and Cipta Panghegar BSc. (STTN). They have shared the experience during the training in Japan, and will use the neutrons as the tool in their research.

Fig.7. Indonesian Participants at AONSA School, J-PARC Japan, 16 – 20 November 2017.

Evvy Kartini, Eddy Giri Rahman Putra, and Darminto (Indonesia Neutron Scattering Society - INSS)

Report from JSNS

Activity of JSNS

From April, the new council was organized, and the number of the JSNS member is 575 including 39 students, and the number of the supporting member is 35. From this year we established a new membership, Senior member, and the number of the senior members is 24.

Korea-Japan Joint meeting

JSNS supported ISSP-J-PARC Joint Workshop on Science Frontier by Neutron Scattering -The 16th Korea-Japan meeting on Neutron Science-, which was held in The University of Tokyo, Kashiwa Campus, from 8th-10th Jan. 2018. In this meeting, neutron scattering research in wide field including strongly correlated electrons, magnetism, soft matter, liquid, instruments, and industrial use was discussed. Current statuses of neutron science laboratories were also reported.

Neutron and Muon School

JSNS is one of supporting organizations of the 3rd Neutron and Muon School held in J-PARC/MLF during 20-24 November 2018. This school is open for Graduate Students, Post-doctoral fellows and early career researchers from both universities and companies.

Annual meetings

18th annual meeting of the JSNS will be held in Mito city in Ibaraki prefecture from 4th to 5th December, which is organized by Ibaraki University (Chairman: Prof. Ishigaki). Registration will start at the beginning of September, and abstract deadline is in October.

Important decision was made about the 19th annual meeting. We will hold it as a part of AOCNS in Taiwan. JSNS annual meeting is usually held around beginning of December. It is too near to the next AOCNS and we thought it would contribute AOCNS. A general assembly and some of award lectures will be planned.

Present status of neutron sources

JRR-3 is still shutdown, but a new schedule for restart was released. It is planned to be operated again in 2020. J-PARC neutron source have been running very stable around 500 kW and succeeded in 1 kW operation for 1 hour. A new compact accelerator driven neutron source is under construction in National Institute of Advanced Industrial Science and Technology. An electron linac with a power of about 10 kW is used. This power is about 10 times higher than existing RANS and HUNS. RANS has been used for new steel analysis and RANS-II neutron source is under development for infrastructure inspection. HUNS accelerator was replaced to get to about 3 times higher intensity, and now under commissioning. NUANS at Nagoya University succeeded in delivering neutron beams for all two beam lines.

Yoshiaki Kiyanagi (JSNS)

Asia-Oceania Neutron Scattering Association
AONSA

New leadership in KNBUA

On May 31, 2018, KNBUA established a new leadership with the successor of Professor Sung-Min Choi. Professor Jae-Ho Chung (from Korea University) will be the president of KNBUA for the next two years. We expect a new wave in Korea neutron science through new KBNUA executives led by Prof. Chung. In addition, during the meeting, KNBUA honored Prof. Taehwan Kim (Chunbuk National Univ.) as a young scientist who could lead KNBUA in near future. In the ceremony, he also gave a presentation entitled "Small Angle Neutron Studies on Self-Assembly of Amphiphilic Molecules in Aqueous Solution".

Neutrons in Korea

After long shut down, HANARO research reactor was able to restart on 15 May, 2018. Starting June 10, 2018, the scientific experiments started again. KNBUA thanks to all the effort from HANARO staff and management for their dedication. It is expected to attract more users to utilize HANARO neutron facilities with this opportunity.

Recent and upcoming conferences and workshops in Korea

Every year either in January or February, neutron scientists in Korea and Japan meet to exchange and promote both countries' neutron science program. This year (16th Korea-Japan Neutron Science Meeting), almost 80 people gathered at ISSP, Kashiwa, Japan between 08 -10, Jan. 2018. In Korea, total 29 people (9 students, 3 post-docs, 17 scientist) attended the conference. This annual meeting is long standing effort between KNBUA and JSNS to promote the scientific collaboration between neutron science communities. In this year, KNBUA also supported travel for 6 students, attending the conference.

From 15 to 19, July 2018, KNBUA will sponsor the 15th international surface x-ray and neutron scattering conference. This annual conference is held at Pohang Accelerator Laboratory in Pohang, Korea. The many scope of the conference is emphasized novel techniques for surface x-ray and neutron scattering including instrumentation and source development. This year topics included in-situ and in-operando surface studies, nanostructured surface and interfaces, surface and interfaces in soft matter, biological interfaces, emergent interfacial materials and dynamics of surface, interfaces and nanostructures. KNBUA is one of the major sponsors of the conference.

Sungkyun Park (KNBUA)

Report from Neutron Scattering Society of India (NSSI)

The new managing committee of Neutron Scattering Society of India (NSSI) has taken charge for three years on 8 March 2018. The newly elected members are:

Prof. S. M. Yusuf, President
Prof. D. Pandey, Vice President (Outstation)
Prof. P. U. Sastry, Vice President (Headquarter)
Prof. R. Mittal, General Secretary
Prof. V. K. Aswal, Treasurer
Prof. S. L. Chaplot, Member
Prof. A. Thamizhavel, Member
Prof. R. Mukhopadhyay, Member
Prof. K. G. Suresh, Member
Prof. J. A. E. Desa, Member

Membership No. of Neutron Scattering Society of India has crossed 200.

In a recent meeting of the managing committee of NSSI, it has been decided to hold one or two lectures annually on neutron scattering by eminent scientists under NSSI banner. The lecture series has been named as "Dr. P. K. Iyengar Lecture on Neutron Scattering". Dr. Iyengar (worked with Nobel laureate Prof. Bertram N. Brockhouse) was one of the visionaries in establishing the neutron scattering programme in India.

One of the main activities of NSSI is to promote the neutron science among the young researchers (Ph.D. students, postdocs and young faculties). In continuation of this activity, NSSI is co-organising the XVIII School on "Neutrons as Probes of Condensed Matter" along with Bhabha Atomic Research Centre (BARC) and UGC-DAE-Consortium for Scientific Research (UGC-DAE CSR), Mumbai Centre during October 28 to November 1, 2018. Nearly 60 participants mostly from various Indian universities and institutes are expected to attend the school. The School, spread over five days, will comprise lectures on basic principles and applications of neutron scattering techniques as well as hands on experiments using the neutron scattering facilities at BARC, Mumbai.

S. M. Yusuf (NSSI)

News from Taiwan Neutron Science Society (TWNSS)

The 3^{rd} AOCNS is Coming

The quadrennial Asia-Oceania Conference on Neutron Scattering is coming as the 3^{rd} Asia-Oceania Conference on Neutron Scattering (AOCNS)! Few information is updated. The dates will be 2019/11/17~11/21 in Taiwan where the venue will be in Kenting. Check your swimsuit and goggles and you will have fun with them in Kenting. Kenting is known for its beach. Kenting lies at approximately the same latitude as Hawaii. The soft, clean sandy beach stretches for 600 meters in South Bay of Kenting and is ideal for all kinds of beach activities everyday.

South bay, one of the top 10 Kenting attractions (http://www.ktnp.gov.tw/en/News2.aspx?n=E7540492EC7ADFCE&sms=20AEA0313DE54E2C).

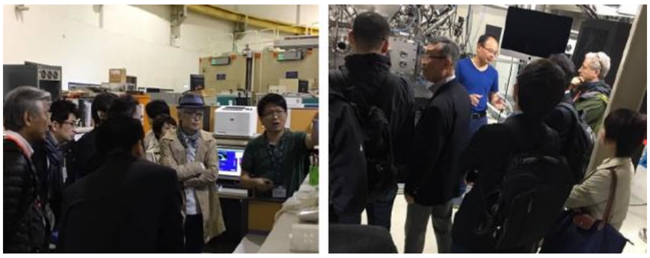
As the host, TWNSS is preparing for the AOCNS 2019 in Taiwan. The conference will be hosted in the Howard Beach Resort, Kenting (http://www.howard-hotels.com.tw/en/kenting/home/). This is a family-friendly resort with children's play area, swimming pool, jacuzzi, pet house, and even a deer farm! You and your family are most welcome!

Group picture.

The 8^{th} Taiwan-Japan Joint Meeting on Neutron & X-ray Scattering

Ya-Sen Sun, the President of TWNSS, opened the meeting. Professor Masaaki Sugiyama (Kyoto University) and Professor Yean-Ren Hwang (Vice Dean of College of Engineering, National Central University) gave an opening remark. There were more than 130 participants attending on March 14^{th}~17^{th}. There were several sections for soft matters, polymers, and biomaterials by X-ray/Neutron. Professor Mitsuhiro Shibayama (University of Tokyo) and Professor Tsang-Lang Lin (National Tsing Hua University) gave a close remark by the end of the joint meeting.

Besides the lectures, there is a one-day tour to visit National Synchrotron Radiation Research Center (NSRRC) where the newly-opened Taiwan Photon Source (TPS) is calling for proposals.



National Synchrotron Radiation Research Center (NSRRC) trip.

Guests visited the newly-opened Taiwan Photon Source (TPS).

Ya-Sen Sun (TWNSS)

Reports from neutron facilities

Report from J-PARC

In the summer shutdown 2017, the neutron target was replaced to a new one (#8), and it was running very stably at 500 kW by the end of June. The operation efficiency was more than 92 %. After the user operation we performed a 1MW test and succeeded to 1hour operation of 1MW (see Figure 1). In the next summer shut down 2018, the target #8 will be replaced to a new one (#10), aiming at a power of 1MW in 2018/2019. About neutron instruments, maintenance and upgrade works for existing instruments will be carried out during the summer shutdown.

General proposals and new user promotion proposals for the 2018A period was closed on June 7th and we received 334, including muon proposals, and 49% of them is from university, 9 % from companies, and 17 % from foreign countries. The proposals will be sent to the Neutron Science Proposal Review Committee for reviewing process. Final results will be sent to users in September, 2018.

The neutron advisory committee (NAC) was held in Tokai on February 26th and 27th to have advices and comments to the MLF operation, the neutron target, the instruments, the sample environments, software and science, and so on. Following the NAC meeting, the International Advisory Committee (IAC) in J-PARC was held on March 5th an 6th to discuss the whole operation and science in J-PARC. One of the biggest domestic meeting "Quantum Beam Science Festa" was held during March 2nd and 4th including MLF symposium, Photo Factory (PF) symposium, MLF tour and a review meeting for MLF Future Planes. The number of participants was about 600 and they enjoyed the discussions very much (Figure 2).

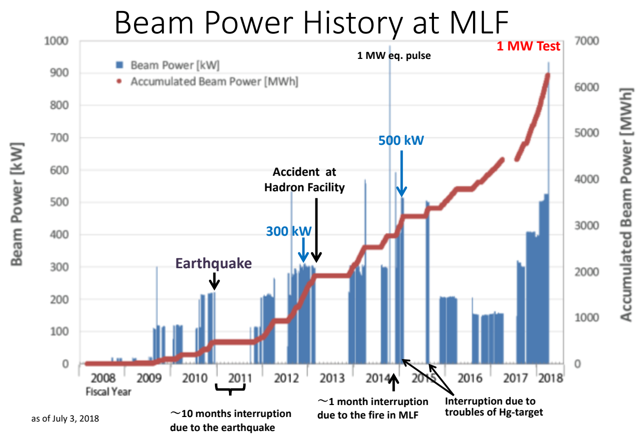


Figure 1. Beam power history of J-PARC MLF.

Figure 2. Group photo of "Quantum Beam Science Festa" held in Mito during March 2nd and 4th, 2018

Toshiji Kanaya (J-PARC)

AONSA

Report from JRR-3

JRR-3: JRR-3 reactor itself had not been seriously damaged by the large earthquake on 11 Mar 2011. We expected JRR-3 resumed its operation soon; however, the new regulatory requirement was established even for research reactors including JRR-3 because of the tragic nuclear accident of Fukushima Dai-ichi nuclear power plant. Almost four years has been passed since the submission of the application documents. Finally, the reviewing process was almost completed and the procedure moved to next stage. We expect to be granted the operational license of JRR-3 until the end of this August.
The schedule announced by JAEA in Jan 2017 was revised, and the time of restarting the reactor is postponed until 2020, almost two years later. The reason it takes two years after getting the operational license is seismic reinforcement work. We reevaluated the seismic motion under new condition given by nuclear regulation authority following new findings of dislocations near Tokai and taking uncertainty of the earthquake prediction into account. The new assumption made the maximum earthquake acceleration three times larger than that in planning of JRR-3.
Even with such incredible increase of seismic motion the reactor building itself is still within the safety level, however, a roof of the reactor building and peripheral structures and buildings around the reactor cannot resist. Such structures have to be reinforced before restarting the reactor. It makes unexpected and no small additional cost and takes time of additional two years. Anyway, JAEA decided to go forward.
During the waiting time, we are going to replace in-pile neutron guides that were installed at very near position from the reactor core. Nobody thought these guide would be replaced after achievement of the first criticality because spatial radiation dose rate in this area is too high to approach. But it's time to replace the guides after a long cooling time. The gain factor of neutron intensity of C2 cold neutron guide is estimated to be five combined with replacement of downstream neutron guides for which cost has not been approved yet.

JAEA: HFIR was used to continue their research without neutrons from JRR-3 under the US-Japan Cooperative Program on Neutron Scattering as well as NIST, J-PARC, and SPring-8. Neutron Materials Research Division of Materials Sciences Research Center (MSRC) published 36 research papers and had five press releases in the Japanese fiscal year (JFY) of 2017.

ISSP: Neutron Science Laboratory (NSL) of ISSP has been running Overseas-Experiment Program since 2012. Travel expenses for two scientists per proposal were supported under the program. In 2017 JFY, 61 persons were sent abroad, namely, OPAL, NIST, ILL, IRNL, etc. as of 31 Mar, 2018. Table 1 shows the statistics of the program. 89 papers have been published in refereed journals since JFY 2011.

NSL continues call-for-proposals every year to keep neutron users in Japan. For JFY 2018, 122 general user proposals and 17 Instrument and Research Team (IRT) proposals were approved. Some proposals will be supported by the Overseas-Experiment Program.

Table 1. Numbers of scientists sent to overseas facilities since 2011 under Transferring program of NSL-ISSP.

Facility			Number of users						
			FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017
HFR	ILL	France	3	9	0	4	3	1	0
OPAL	ANSTO	Australia	7	7	4	18	22	34	22
HANARO	KAERI	Korea	2	7	7	0	0	0	0
FRM-II	MLZ (Munich)	Germany		4	1	0	8	1	7
ISIS	*Rutherford Appleton Laboratory*	UK		4	2	4	4	0	4
SINQ	PSI	Switzerland		1	4	5	6	1	3
NBSR	NIST	USA			3	13	5	2	11
BER II	HZB (Berlin)	Germany			2	0	7	3	2
HFIR	ORNL	USA	13		1	1	1	6	4
SNS	ORNL	USA			4	2	1	5	6
ORPHEE	LLB	France			1	1	1	1	2
Total			25	32	29	48	58	54	61

Mitsuhiro Shibayama (ISSP, U. Tokyo)
and
Masayasu Takeda (JAEA)

AONSA

Report from ANSTO

Australia's Open Pool Australian Light-water (OPAL) reactor is a state-of-the-art 20 Megawatt reactor that uses low enriched uranium (LEU) fuel to achieve a range of nuclear medicine, research, scientific, industrial and production goals.

The Australian Centre for Neutron Scattering operates the suite of neutron beam instruments at the OPAL reactor and leads Australia in the use of neutron scattering and X-ray techniques to solve complex research and industrial problems in many important fields. There are currently 13 operating neutron beam instruments available for users and 1 neutron beam instrument under construction.

Open competitive access to the neutron beam instruments is available through the Australian Centre for Neutron Scattering Customer Portal (http://neutron.ansto.gov.au). Calls occur biannually and close in 15th September and 15th March.

In 2018 the Australian Centre for Neutron Scattering is celebrating two significant milestones of 10 years of neutron beam operations and 1000 Scientific Research Papers containing data obtained using the neutron scattering instruments at the OPAL reactor. These milestones also coincide with the 100th reactor cycle of the OPAL reactor.

Projects to replace the existing Cold Neutron Source and install an additional split neutron guide in the TG123 neutron beam assembly are progressing well with planned installation of the TG123 neutron beam assembly in late 2019. The replacement cold source installation date has been delayed until 2024.

In the first half of 2018 we have made significant progress on the installation of a 2nd neutron reflectometer on the CG2B neutron guide. BioRef was transferred to ANSTO under a donation agreement with the Helmholtz-Zentrum Berlin in Germany. When installed at the OPAL reactor the instrument will be named SPATZ, the German word for sparrow, which follows the tradition of the naming convention of other instruments at the Australian Centre for Neutron Scattering, which are named after Australian and other fauna. Significant modifications to the BILBY sample enclosure area were also made to accommodate SPATZ. SPATZ is expected to commence hot commissioning in October 2018 and transition to normal operations in early 2019 and will be the 14th neutron beam instrument at OPAL.

A total of 292 proposals for cold- and thermal-neutron beam experiments along with proposals to the National Deuteration Facility were received for the 2018-2 proposal round with 192 proposals approved by the Australian Centre for Neutron Scattering & National Deuteration Facility Program Advisory Committee.

Jamie Schulz (ANSTO)

Report from KAERI

Almost half a year after the shutdown due to the thinner than expected hot water layer of the reactor and also nearly four years after HANARO stopped scientific experiments, the 30 MW research reactor finally resumed operation on May 15, 2018. After rigorous testing of the reactor and the neutron beam instruments, finally, scientific experiments returned on June 10. Because any further shutdown would mean several months of scrutiny from the nuclear regulators without neutrons, the reactor operators and instrument scientists are extremely cautious to keep the facility operational and safe.

Even Even though the instrument scientists tried hard to keep the instrument in operational condition for the past four years, many instruments showed troubles with electronic devices including detectors. While some instruments such as HRPD and 40M-SANS quickly recovered, many took several weeks to recover fully. As of writing, most of the existing nine instruments are now operational albeit with some limitations.

Meanwhile, two instruments are expected to the list of operational instruments by the end of the year. They are the Disk-Chopper Time-of-Flight (DC-ToF) spectrometer and the Bio-Reflectometer (Bio-REF). They are the two of the five instruments to be commissioned in the coming years.

For the time being, HRPD and 40M-SANS will be only instruments included in the upcoming call for proposals due to the lack of resources. To use other instruments users are advised to contact the instrument scientists and collaborate.

To discuss collective actions to counter the difficulties mentioned above, KNBUA - the user organization and NSC - the facility operator held a joint brainstorming session in Daejeon from June 28 to 29. The participants agreed to concentrate resources to a few essential instruments to maximize output and impact, to invite Participating Research Teams to operate under-funded and under-staffed instruments and to pursue funding similar to the one the Pohang Light Source receives from the government to help users and improve the facility. After losing a big chunk of funding and a few essential staff members, the neutron beam facility at HANARO is in a critical condition. Stakeholders have risen to face the challenges, and hopefully, the facility regains its premier status soon.

In 2019, HANARO will host the AONSA neutron school and the IAEA Training Workshop on Neutron Imaging. The dates are not fixed yet.

Beam is on after almost 4 years since HANARO was shut down in July 2014.

Participants of the KNBUA+NSC Join Brainstorming pose for a group photo. (courtesy: June-Hyuk Lee)

Sungil PARK (KAERI)

Progress of Neutron Scattering Facilities at CARR

The infrastructure systems in the reactor hall, including the compressed air, the electricity power supply, the cooling water and the ventilation, has been improved at the beginning of 2018. Several new sample environment equipments, including a high pressure cell, two furnaces and an in-situ tensile tester, have been constructed.

Eight instruments are now under construction or commissioning, known as the phase II instruments at CARR. The Cold Neutron Triple-axis Spectrometer is now being optimized with neutron beam. The installation of the Engineering Neutron Diffractometer has been finished, which has very large space available for holding large samples, as shown in figure 1. The Cold Neutron Multi-axis Spectrometer, the Thermal Neutron Imaging, the Cold Neutron Imaging and the Neutron Activation Analysis Facilities are all now under construction on schedule. Meanwhile, for the two existing powder diffractometers, a new monochromator shielding has been designed in order to enlarge the sample environment space and the range of scattering angle.

In addition, we have successfully fabricated neutron Soller collimators, as shown in figure 2, and tested them by using neutron beam. And the position sensitive boron coated straw neutron detector from Tsinghua University was also tested at CARR.

All above efforts will set up a solid foundation for the reliable operation of neutron facilities and the good service to users in the second half of this year.

Figure 1. The Engineering Neutron Diffractometer

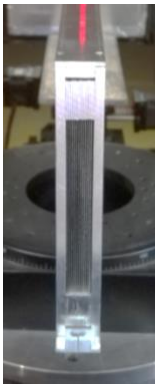


Figure 2. The neutron Soller collimator

Kai SUN (CARR)

China Spallation Neutron Source：a rising star on the horizon for neutron scattering in China

On August 28, 2017, China Spallation Neutron Source (CSNS) produced its first neutron beam with a 1.6 GeV proton pulse injected into the CSNS target station, which is a great milestone for the CSNS project. The measured neutron spectra of liquid hydrogen moderator and water moderator agree with those by Monte Carlo simulation. The first round of joint beam commissioning among accelerators, target station and neutron instruments started at the repetition rate of 1 Hz in the beginning of November, 2017, three dayone neutron spectrometers, general purpose powder diffractometer (GPPD), multipurpose refelcetometer (MR) and small angle diffractometer (SANS), have successfully collected neutron data. The beam power increased to above 10 kW with a repetition rate of 25 Hz in November 9th, 2017, and to 20 kW in March. Now, we keep the beam power of around 20 kW to evaluate most accelerator parameters and to fix some issues met. The CSNS project has passed the technology test officially organized by Chinese Academy of Sciences on March 25, 2018, the state acceptance is expected in this autumn, and then will open to users soon after.

For GPPD, diffraction data on the NIST standard sample 640e Si powder in a 9.3 mm vanadium can were successfully obtained by all three detector banks and time-focused to produce a single histogram. Although the guide/collimator exchanger was set in the high-intensity mode at low power (10 kW) with 5 Hz, the well-resolved diffraction peaks could be seen throughout the measured range of d-spacing, the instrument resolution of the high-angle detector bank reaches 0.184%, marking the successful calibration of this machine. The first GPPD user experiment was conducted on February 14, to measure subtle structure changes in $Li_{1.2}Ti_{0.35}Ni_{0.35}Nb_{0.1}O_{1.8}F_{0.2}$ upon de-lithiation process, the robust anions framework in this cation disordered Li-rich cathode materials was demonstrated. The reliability factors of Rp = 1.81% and Rwp = 2.76% obtained from the Rietveld refinement showed the high quality and reliability of the data collected. Then the diffraction data collected on other lithium ion battery materials, and materials with possible magnetic skyrmions, magnetocalorics or negative thermal expansion. Up to now, two peer referred papers have been published with GPPD data (Nano Energy 49 (2018) 77-85; Energy Storage Materials 16 (2018)354-363).

The CSNS MR is an instrument optimized for examining thin films, especially in regard to their magnetic properties with the removable polarized neutron devices. The scattering plane has been chosen horizontal to allow more convenient operation of the instrument and changing optional equipment. MR started it beamline base construction in April, 2016. The target station insert with a 6-channel bender was plugged up in March, all neutron guide was installed in April, 2017, all the beamline shielding installation was finished into the early of August to wait for the first neutron pulse. After making sure the neutron detection system in order, a 100 nm Ni film was used to calibrate the Q value, the critical Q (=0.0205±0.0005 $Å^{-1}$) of total reflectivity agrees well with the expected value, and the reflectivity can go down to 10^{-5}. Up to now, Reflectivity on three user samples have been collected, and the analysis of the interface characteristic is performing.

For SANS, the hot commissioning started also from November, 1, 2017. A batch beamline & key component tests demonstrate good performance for both background control, neutron wavelength selection, beamline collimation and neutron detection. Standard samples including “bates-poly” (deuterated polystyrene), silica nano-particles and silver-behenate have been adopting to calibrate this instrument. Preliminary results seem to be consistent with that from QUOKKA (at ANSTO), LOQ and SANS2D (at ISIS) by measuring the same standard samples. It is supposed that the planned user experiments will be conducted during the next round operation after the routine facility maintenances in Summer.

It is worthy to note that CSNS is planning to open to users in next commissioning duration, and has also signed cooperation agreements with local Universities and Institutes to build 6 user instruments.

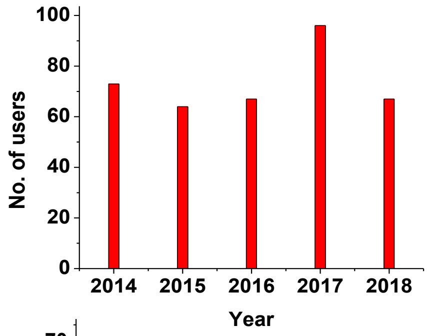
Aerial View of the CSNS

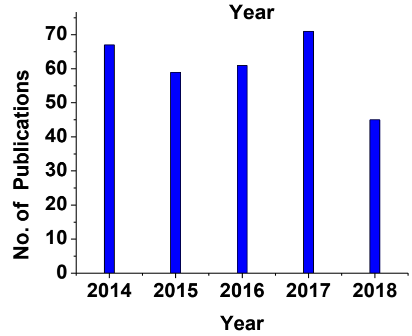
F. Wang (CSNS)

The National Facility for Neutron Beam Research (India) - Facility Report

Neutron scattering facilities at Bhabha Atomic Research Centre (B.A.R.C.) are based on the 100 MW research reactor, Dhruva. Currently, there are 12 neutron beam instruments operational: powder diffractometers (3 No.), single crystal diffractometer, liquid and amorphous diffractometer, small angle neutron scattering instruments (2 No.), polarized neutron reflectometer, polarized neutron spectrometer, quasi-elastic neutron spectrometer, triple-axis spectrometer, and neutron radiography. Some of these instruments were upgraded recently with improved detectors for enhancement of signal-to-noise ratio of the data. Additionally, development of a neutron time-of-flight spectrometer and replacement of the existing triple-axis spectrometer with improved instrument parameters are currently under progress. All these facilities are maintained by about 45 scientists, 15 engineering and supportive staffs. For the benefit of neutron scattering community, three conferences, one theme meeting and three schools (including one AONSA neutron school, 2016) were organized during 2014-2017.

A view of the Neutron Scattering Facilities inside the Dhruva reactor hall. These facilities are actively used by researchers including PhD students from various institutions and universities in India. Since the year 2014, about 370 users have utilized these instruments; resulting in about 300 publications in reputed international journals as depicted below.





S. M. Yusuf (BARC)

Investigation of oxidation behavior of SiC-nanowire/carbon fiber composite using MSANS facility at Dhruva reactor, Mumbai

Carbon fiber-ceramic nanocomposites are prominent materials for high temperature applications because of its retention of strength along with low corrosion rate. To improve the oxidation resistance in advance ceramic composites, second phases with different morphologies, such as, whiskers, nanotubes and nanowires have been used in ceramic matrices. Among these reinforced second phases, silicon carbide (SiC) nanowire is one of the most suitable phases due to its smaller size, higher strength, and better toughness with respect to other counterparts. SiC nanowires have superior plasticity and strength in comparison to bulk SiC. In order to investigate the effect of oxidation on morphology of SiC nanowires, composites have been studied using a double crystal based medium resolution small-angle scattering (MSANS) facility at Dhruva reactor, Mumbai, India. The instrument can probe length scales of 40–1000 nm. The scattering profiles of samples treated at different oxidation temperatures of 773, 933 and 1073 K are shown in Fig. 1. The small-angle scattering intensity mainly arises from the SiC nanowires due to spatial density fluctuations in the range of 1–1000 nm. The calculated average radius of the SiC nanowire was approximately 17 nm whereas the fractal dimension was 2.0. This indicates that SiC nanowires form diffusion limited cluster aggregate like fractal network near the carbon fiber surface. It is observed that radius of SiC nanowires does not alter much during the oxidation of composites. Moreover, the cloud like network of SiC nanowires also does not change with oxidation in the present temperature range. These results have been recently published in collaboration with the research group of Dr. Jyoti Prakash and Dr. Kinshuk Dasgupta from the Mechanical Metallurgy Division, BARC, India [Ref: Corrosion Science **135**, 46-56 (2018)].

J. Bahadur and D. Sen* (BARC)

Experimental evidence of formation of high density nonmagnetic cobalt thin films: a polarized neutron reflectivity study

Magnetism of 3*d* transition metal elements, alloys or compounds is important in technological applications. Magnetism in the dense phases of these materials is important for their existence in the Earth's core, where materials exist under high pressure. In the laboratory, such dense phases are obtained by applying pressure to bulk materials. However, materials in the form of thin films may show unusual structures and properties which can be obtained in the bulk form only under extreme conditions, such as high pressure and/or high temperature. Extensive investigations using combination of various experimental techniques, including depth sensitive x-ray reflectivity (XRR) and polarized neutron reflectivity (PNR), confirmed the existence of high density (HD) nonmagnetic (NM) cobalt layers, a few nanometer (nm) thick, near the top and the bottom of a 25 nm Co thin film on Si. Co films of different thickness grown on different substrate have been investigated using the polarized neutron reflectometer at the Dhruva reactor, Mumbai. Fig. 2 (a) shows the XRR data from the Co film on Si substrate. Inset shows the electron scattering length density (ESLD) profile, highlighting the HD Co at interfaces. Figs. 2(b) and 2(c) show the PNR data and scattering length density (SLD) depth profiles obtained from the PNR data, respectively. These results have been recently published in collaboration with the research group of Prof. B. N. Dev from the Indian Association for the Cultivation of Science, Kolkata, India [Ref: Sci. Rep. 7, 41856 (2017) and Nanotechnology 29, 195703 (2018)].

Surendra Singh (BARC)

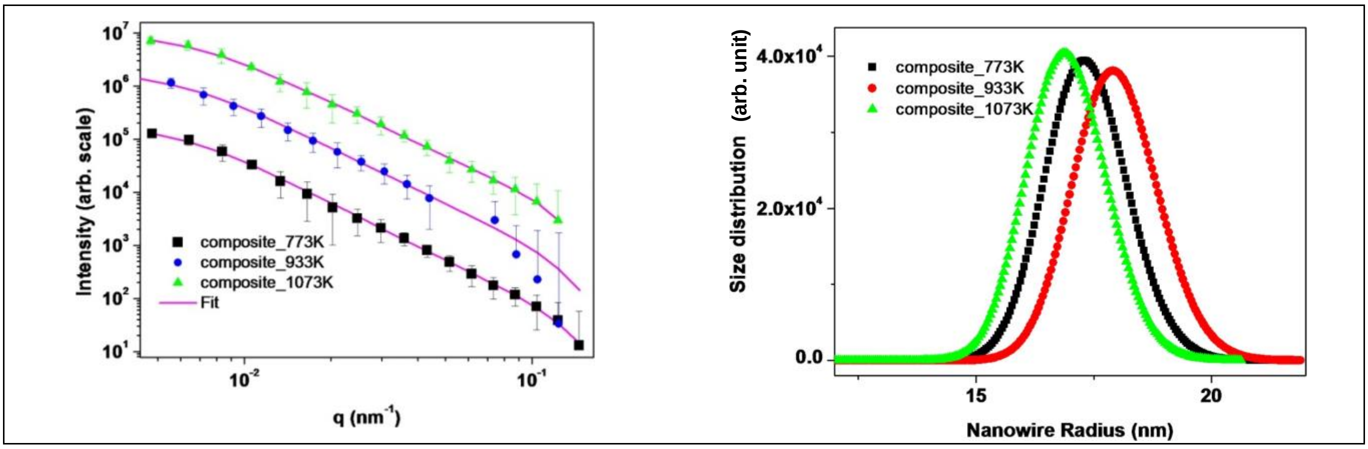


Fig. 1 (Left) SANS profile of the samples treated at different temperatures. The scattering profiles are shifted vertically for the sake of the clarity. Solid lines represent fit of the model to data. (Right) Radius distributions of the SiC nanowires at different oxidation temperatures.

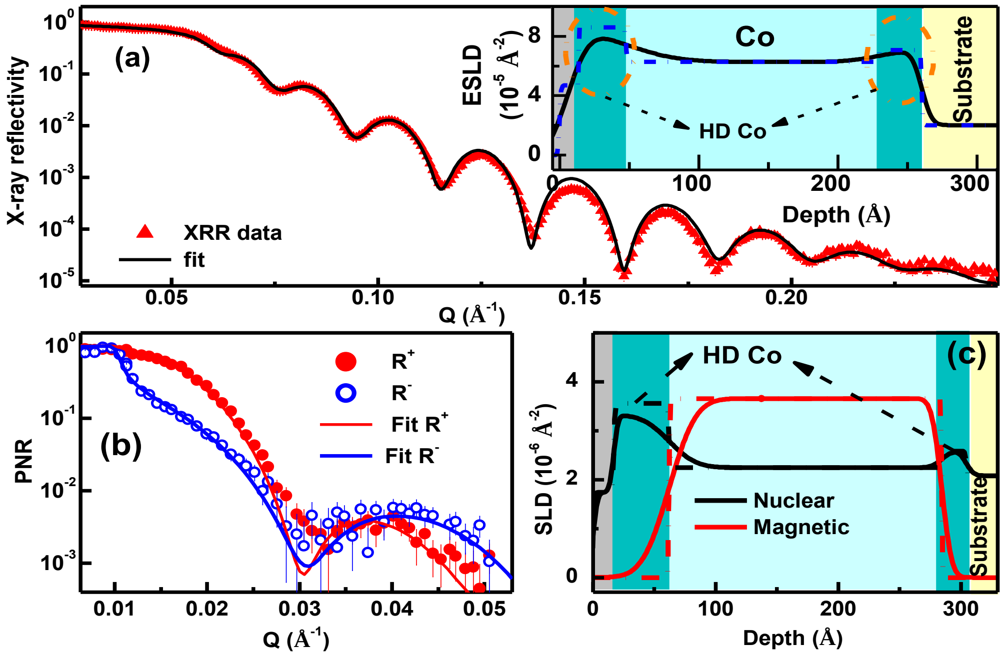


Fig. 2 (a) X-ray reflectivity data from Co film grown on Si substrate. Inset shows the electron scattering length density (ESLD) depth profile of the film highlighting the formation of high density (HD) Co layer at interfaces. (b) PNR data from the Co film measured using the polarized neutron reflectometer at the Dhruva reactor, Mumbai, India. (c) Nuclear and magnetic scattering length density profiles obtained from the PNR data.

AONSA

BATAN's Neutron Scattering Laboratory - Facility Report

In this volume several modifications and upgrading of the instruments are reported.

Started in the middle of June this year, during a long period shutdown of the Reactor, the inner part of shielding of the residual stress diffractometer have been modified to reduce the unwanted background of gamma and neutron around the vicinity of the instrument. The activities have been collaboratively performed by the technical and protection radiation staffs from the Center of the Multipurpose Research Reactor and Center for Science and Technology for Advanced Materials. The efficiency of new installed shielding will be investigated at the next running cycle of the Reactor. Figure 1 shows an example of the activity during the modification.

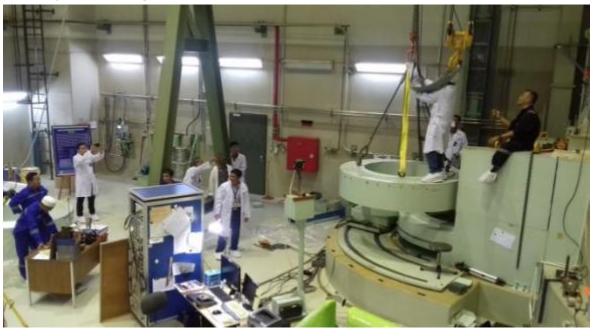


Fig. 1. Modification of shielding for residual stress diffractometer.

At the same time, several modifications on the external flight tube of diffractometer for texture analysis has been performed to optimize beam intensity at the sample position. The goniometer for crystal monochromator has also been aligned with the same purpose. The alignment process is shown in Figure 2.

Fig. 2. Alignment of goniometer for monochromator of texture diffractometer.

At a certain angular position of the High Resolution Powder Diffractometer the instrument could not been moved to the intended position due to the uneven level of the the dance floor. Therefor the floor must be adjusted to preserve the level of the floor as horizontal as possible. The adjustment process is shown in Figure 3.

Fig. 3. Adjustment level of dance floor of the High Resolution Powder Diffractometer.

Maintenance of the counting system SANS has been performed to increase the quality of the detected signal. Some minor modification of the wiring system of the 2D detector has also been done to reduce noises. One picture taken from these activities is shown in Figure 4.

Fig. 4. Maintenance and minor modification of counting system of SANS.

Iwan Sumirat (BATAN)

Call for Applications for the AONSA Young Research Fellowship 2019

The AONSA Young Research Fellowship Program has been established in 2014 to support highly talented young scientists in the Asia-Oceania region and help them to develop their expertise and career in neutron science and technology. The Program will provide financial support for Fellows to visit major neutron facilities in the region for collaborative research using neutrons.

Any young scientist in the Asia-Oceania region within 8 years of the completion of his/her PhD and who wishes to perform neutron research at major neutron facilities in the region (but not in his/her home country) can apply by following the Rules as described below. The hosting Neutron Facilities in 2019 are J-PARC (Japan), OPAL at ANSTO (Australia), and CSNS (China). A total of three Fellowship positions are available in this application round (one for each hosting Facility) and the possible duration of each Fellowship visit is 3 to 12 months. Please send your applications electronically to the AONSA Office (fujii.misono@jaea.go.jp) with c.c. to limei-sun2000@163.com by **September 27, 2018**. The results will be communicated to applicants in November 2018 and the Fellowship visits will start in 2019.

An application should include:

- A standard application form (provided by AONSA) with all required information completed including a scientific plan for collaborative neutron research. (The application form can be downloaded from http://aonsa.org)
- A curriculum vitae including a full list of publications.
- One recommendation letter from a supervisor at home institute.
- One letter of support from President of the home neutron society or a representative of home neutron community.

For the more information about neutron scattering instruments available and possible opportunities at the Facilities, please contact the following persons.

J-PARC: Prof. Toshiji Kanaya
Email: tkanaya@post.kek.jp

OPAL at ANSTO: Dr. Jamie Schulz
Email: jys@ansto.gov.au

CSNS: Dr. Lin Li
Email: lilin2009@ihep.ac.cn

Selection Committee for the AONSA Young Research Fellowship 2019

Dongfeng Chen (Chair, CNSS), Anna Paradowska (ANBUG), Evvy Kartini (INSS), Hideki Seto (JSNS), In-Hwan Oh (KNBUA), P. U. Sastry (NSSI), Ya-Sen Sun (TWNSS)

AONSA Young Research Fellow (Established February 21, 2014)

The purpose of the Asia-Oceania Neutron Scattering Association (AONSA) Young Research Fellowship Program is to support highly talented young scientists with leadership potential in the Asia-Oceania region, helping them to develop their career and expertise in neutron science and technology. The Program will provide financial support for Fellows to visit major neutron facilities in the region for collaborative research using neutrons.

1. Rules

a. The Fellowships shall be awarded every year to highly talented young scientists in the region who have demonstrated strong scientific or technical needs for an extended visit to a major neutron facility in the region (but not in his/her home country). Recipients can receive the Fellowship only once.

b. The duration of the Fellowship visit shall be 3 to 12 months depending on his/her needs and resources available. The maximum number of recipients each year shall be determined by the AONSA Executive Committee (EC) after consultation with hosting facilities.

c. The Fellowship consists of a certificate of Fellowship award, one round-trip airfare between his/her home institute and the hosting facility, and local living expense at the hosting facility. The amount of support for local living expenses shall be determined based on the nominal cost of living and funding resources available. At least one staff member shall be assigned by the hosting facility to the Fellow as a collaborator and mentor.

d. The financial responsibility for each Fellow shall be shared by AONSA, the hosting facility, the home institute, and another funding agency (if available). When other funding resources are not available, AONSA shall provide one round-trip airfare, the hosting facility shall cover local living expenses, and the home institute shall provide salary, insurance and other financial needs. When funding from another agency is available, the guidelines of that agency shall be followed.

e. Within 3 months of completing the Fellowship visit, each Fellow shall submit a report to the AONSA Office and the hosting facility with a brief description of research performed during his/her visit and other outcomes.

f. In any publication resulting from the Fellowship visit, the AONSA Young Research Fellowship Program and hosting Facility shall be acknowledged.

g. A special session with successful Fellows as speakers shall be considered at the following AOCNS meeting.

2. Applications and Eligibility

a. The AONSA Young Research Fellowship Program shall be open to young scientists in the Asia-Oceania region within 8 years of the completion of his/her PhD (as of the application deadline, excluding career interruptions) who wish to perform neutron research at major neutron facilities in the region (but not in his/her home country).

b. The Call for Applications shall be announced by Chair of the Fellowship Selection Committee (SC) through the AONSA network including member societies, observers and other personnel determined by the SC.

c. An application should include:

- A standard application form (provided by AONSA) with all required information completed including a scientific plan for collaborative neutron research.
- A curriculum vitae including a full list of publications. One recommendation letter from a supervisor at home institute.
- One letter of support from President of the home. neutron society or a representative of home neutron community.

d. The application shall be electronically submitted to the AONSA Office by the deadline indicated in the Call for Applications.

e. An application shall be valid for one cycle only.

3. Selection Committee

a. The SC shall consist of seven members chaired by the AONSA Vice President, other six members appointed by the EC. The term of SC members shall be two years. A member can be reappointed once (up to four years).

b. The SC members shall represent a broad range of member societies (not observers) and fields of neutron science and technology. The Chair of the SC may co-opt a person or persons from member societies or from observer country/region, when none of the six members has expertise in the research field(s) required for reviewing submitted applications. Co-opted member(s) shall be approved by the EC.

c. The SC members shall be posted on the homepage of AONSA when the SC issues the Call for Applications. The co-opted member(s) shall also be posted.

d. The Chair of the SC shall consult with the Directors of hosting facilities concerning the suitability of prospective successful candidates at their facilities before finalizing and announcing the SC's decision.

e. The SC's review shall be completed within 2 months after the application deadline.

f. The SC shall submit a list of recipients with a review report for each recipient to the EC for approval by the end of November of each year. The approval by the EC may be done electronically, if necessary.

g. The list of recipients shall be communicated to the Directors of the hosting facilities and posted on the AONSA website. The result of each application shall be communicated to each applicant individually by the Chair of the SC.

h. The AONSA Office, hosting facilities and home institutes shall cooperate to arrange the Fellowship visits efficiently.

i. The commencement of the Fellowship is subject to meeting the security and visa requirements of the hosting facility.

AONSA

Call for Nominations for the AONSA Prize 2019

The AONSA is inviting nominations for the ONSA Prize to recognize an outstanding research career with a significant impact or contribution to the use or development of neutron science or technology in the Asia-Oceania Region.

The AONSA Prize was established in 2010 and is awarded every two years. The first four Prizes were awarded to Prof. Noboru Watanabe (KEK) in 2011, Prof. Balebail Anantha Dasannacharya (BARC) in 2013, Prof. John William White (Australian National Univ.) in 2015 and Prof. Nobuo Niimura (Ibaraki Univ.) in 2017

Anyone may submit one nomination or a seconding letter for the AONSA Prize 2019 by following the rules as described below by **September 27, 2018**. Please send nominations electronically to the Chair of the Selection Committee (dfchenciae@126.com and dongfeng@ciae.ac.cn). The Prize winner(s) for 2019 will be announced in November 2018. The Prize Ceremony will take place and the Prize winner(s) will deliver the Prize Lecture during the AOCNS, Nov 20-24, 2019, Kaohsiung, Taiwan.

Selection Committee for the AONSA Prize 2019:
D. Chen (Chair, CNSS), I. Gentle (ANBUG),
E. G. R. Putra (INSS), M. Shibayama (JSNS),
K.B. Lee (KNBUA), S. M. Yusuf (NSSI),
H-L. Chen (TWNSS)

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AONSA Prize
(Established on Oct. 5, 2010)

The Asia-Oceania Neutron Scattering Association (AONSA) awards the AONSA Prize every two years to a person or persons to recognize his/her or their outstanding research career with a significant impact or contribution to the use or development of neutron science and technology in the Asia-Oceania Region.

1. Rules

a. The Prize shall ordinarily be awarded to one person but may be shared by no more than three persons when all the recipients have contributions to the same accomplishment. Recipient(s) should receive the AONSA Prize only once.

b. The Prize consists of a certificate citing the contributions made by the recipient(s) and a monetary prize. The amount shall be decided by the AONSA Executive Committee (hereafter referred to as the EC). Where the award is shared, the prize money shall be equally divided amongst recipients

2. Nomination and Eligibility

a. Nomination shall be opened to anyone whose work has significantly impacted or contributed to the Asia-Oceania region.

b. Anyone (not a member of the AONSA Prize Selection Committee (hereafter referred to as the SC)) may submit one nomination or a seconding letter for the Prize.

c. A nomination should include:

- A letter of not more than 5,000 characters evaluating the nominee's qualification for the Prize and identifying the specific work to be recognized.
- A brief curriculum vitae
- A short list of major publications
- Up to five reprints/preprints
- At least two, but not more than four seconding letters

d. Nomination should be electronically submitted to Chair of the SC by the deadline issued by the SC.

e. Nomination shall be active through two review cycles (4 years). Nominations may be updated while still active.

3. Selection Committee

a. The SC shall consist of seven members chaired by the AONSA Vice President while other six members shall be appointed by the EC. Their term shall be two years (one selection cycle). A member can be reappointed for the next selection cycle (up to two cycles for four years).

b. The SC shall be independent of the EC. Nominations shall be treated in confidence within the SC.

c. The SC members shall represent a broad range of member societies (not observers) and fields of neutron science and technology. The Chair of the SC may co-opt a person or persons from member societies or from observer country/region when none of six members can cover research field(s) for reviewing nominations submitted. Co-opted member(s) shall be approved by the EC.

d. The SC members shall be posted on the home page of AONSA when the SC issues the call-for nominations. The co-opted member(s) shall also be posted.

e. The SC shall submit the name(s) of recipient(s) with a report of nomination process to the EC prior to five months to Prize Ceremony at the quadrennial Asia-Oceania Conference on Neutron Scattering (AOCNS) or the quadrennial International Conference on Neutron Scattering (ICNS), both held in an interval of two years.

f. The SC shall carry out AONSA Prize Ceremony at AOCNS or ICNS