

As of June 2020

Report from AONSA Office
-After EC meeting in November 2019 in Kenting

Website maintains

April: Create an account of David Cortie.
May. 18: Updated on “Board and Committee”.

Budget

Issue receipts of Annual Fee by secretary’s name.
Payment for the annual maintenance fee of aonsa.org.
Confirm and update deposit / withdrawal of the bank account as required.

Collecting Annual Fee (membership fee 2020)

Collect AONSA annual membership fees from the member associations.
Issue the Invoices and receipts by secretary’s name.

Preparation for budget report of EC meeting

Send all revenue and expenditure report with copies of the account book and bankbooks to treasurer by email.

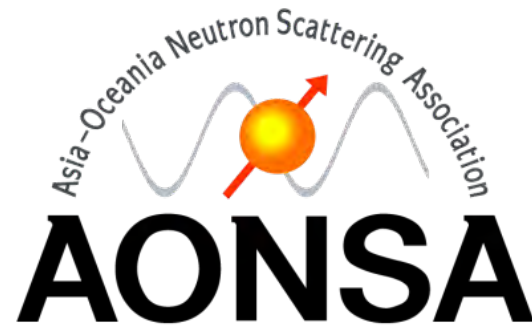
AONSA Young Research Fellowship

Arrangement of the airfare reimbursement for fellows who join research fellowship below.
AYRF2019 Dr. Minyoung Yoon
AYRF2019 Dr. Chi-Hung Lee
Sending certificates to 9 fellows 2018, 2019 and 2020.

Message from AONSA Office

Following announcements were distributed to the AONSA members.
Apr. 20 - MLF's suspension of operations due to the pandemic of COVID-19
May. 13 - Resumption of MLF operations
June. 2 - Advanced Notice on J-PARC MLF Call for General Use Proposals (Short Term, One Year)

AONSA EC Meeting Financial Report



Hsiung Chou (Treasurer of AONSA, TWNSS)

2020-06-20

Video Meeting

2020-06-20

AONSA Annual fee - by category	
Category	Income (JPY)
Previous Balance	8,256,695
Annual fee	860,540
Donation	426,860
interest	35
AOCNS2019 refund	429,315
Total amount	9,973,445
Category	Expense (JPY)
AONSA travels	224,501
AYRF 2020	185,950
EB & domain charge	42,324
Bank handling charge	2,990
Transfer to Prize Fund	426,860
Total amount	882,625
Total Balance	9,090,820

Annual Fee :

TWNSS, CNSS, ANBUG, JSNS

Donations:

CSNS:1000; ANBUG:2000;
JSNS:1000

AONSA travels:

Mahn Won Kim & Yasuhiko Fujii

AYRF:

Mingyoung Yoon, Chi-Hung Lee

EB charge (JPY4400/month)

Domain charge (JPY7124)

internet banking monthly charge

~ \$85,500 (+8,000+2,500)

2020-06-20

AONSA Prize Fund				
Date (Y/M/D)	Item	Income (JPY)	Expense (JPY)	Balance (JPY)
2018/11/08	Previous balance in 2019	2,967,121		2,967,121
2018/02/18	Interest	13		2,967,134
2019/05/17	Donation	426,860		3,393,994
	Total amount	3,393,994	0	3,393,994

~\$31,900 (+4000)

AONSA **future** budge plan

Income

AONSA Annual Fee: \$6000
Interest: few
Donation: \$1000

Expense

YRF \$~6000
12th Neutron Sch \$~3000
EB charge: \$ ~250 JPY4400/month
Bank Handling: \$ ~120 dep. on handling process

Financial Balance of 2019-05-CMRR

2019-11-12

AONSA Annual fee - by category	
Category	Income (JPY)
Previous Balance	9,071,333
Annual fee	216,020
Donation	0
interest	39
Total amount	9,287,392
Category	Expense (JPY)
10 th Neutron School	328,860
3 rd AOCNS	543,650
AYRF 2019	119,087
EB charge	21,600
Bank handling charge	17,500
Total amount	1,030,697
Total Balance	8,256,695

Annual Fee :

NSSI

Donations: (five donations in 1st ½)

AYRF: Shaofei Wang

EB charge (JPY4320/month):

internet banking monthly charge

~\$75,000

AONSA Prize Fund				
Date (Y/M/D)	Item	Income (JPY)	Expense (JPY)	Balance (JPY)
2018/11/08	Previous balance in 2017	3,360,454		3,360,454
2018/02/18	Interest	12		3,360,466
2019/05/17	AONSA prize USD : 5000-2000 Goods : 47548 handling fee + msk fee		393345	2,967,121
	Total amount	2,967,121	0	2,967,121

~\$26970

AONSA **future** budge plan

Income

AONSA Annual Fee: \$14000
Interest: few
Donation: \$4000

Expense

YRF \$~6000
11th Neutron Sch \$~3000
EB charge: \$ ~40 JPY4320/month x 1 month
Bank Handling: \$ ~100 dep. on handling process

설문조사 결과 공유

참석자가 이제 설문조사 결과를 보는 중입니다

1. What is your first choice Society to host AOCNS 2023



결과 공유 중지

설문조사 다시 시작

2020/06/19

Selection committee proposals for the 2021 AONSA Prize and 2021-2022 AONSA

Young Research Fellowship (YRF)

For the selection committee for the 2021 AONSA Prize, a call for nominations was sent from the vice president of AONSA to the presidents of the national neutron-scattering societies on Apr. 24, 2020. The nominations were received from all the member countries by Jun. 16, 2020. The vice president would like to propose the following candidates as the selection committee members for the 2021 AONSA Prize. They are selected following the nomination from the presidents of the corresponding national neutron-scattering societies with the consideration of their scientific expertise.

Selection Committee for 2021 AONSA Prize

Dr. Anna Paradowska (ANBUG)

Prof. Fangwei Wang (CNSS)

Prof. Dr. Darminto (INSS)

Prof. Taku J Sato (JSNS, Chair)

Prof. Sung-Min Choi (KNBUA)

Prof. Dhananjai Pandey (NSSI)

Prof. Wen-Hsien Li (TWNSS)

Similarly, the call for the nominations for the YRF committee was sent on Apr. 24, 2020, and the nominations were received from all the member countries by Jun. 16, 2020. Following the nominations with consideration of their scientific expertise, the vice president would like to propose the following candidates as the selection committee members for the 2021-2022 AONSA Young Research Fellowship.

Selection committee for 2020-2021 AONSA Young Research Fellow

Dr. Kirrily Rule (ANBUG)

Prof. Kai Sun (CNSS)

Dr. Eddy Giri Putra (INSS)

Prof. Taku J Sato (JSNS, Chair)

Dr. Ki-Yeon Kim (KNBUA)

Dr. K. G. Suresh (NSSI)

Prof. Wen-Hsien Li (TWNSS)

Call for Nominations for the AONSA Prize 2021

The AONSA is inviting nominations for the AONSA 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, Prof. Nobuo Niimura (Ibaraki Univ.) in 2017, and Prof. Mahn Won Kim (KAIST) in 2019.

Anyone may submit one nomination or a seconding letter for the AONSA Prize 2021 by following the rules as described below by **August 15, 2020**. Please send nominations electronically to the Chair of the Selection Committee (taku@tohoku.ac.jp). The Prize winner(s) for 2021 will be announced in November 2020. The Prize Ceremony will take place and the Prize winner(s) will deliver the Prize Lecture during ICNS, July 04-08, 2021, Buenos Aires, Argentina.

Selection Committee for the AONSA Prize 2021:

A. Paradowska (ANBUG), F. Wang (CNSS), Darminto (INSS), T. J. Sato (Chair, JSNS), S.-M. Choi (KNBUA), D. Pandey (NSSI), W.-H. Lee (TWNSS)

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

Call for Applications for the AONSA Young Research Fellowship 2021

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 2021 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 taku@tohoku.ac.jp by **August 31, 2020**. The results will be communicated to applicants in November 2020 and the Fellowship visits will start in 2021.

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://www.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. Toshiya Otomo
Email: toshiya.otomo@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 2021

K. Rule (ANBUG), K. Sun (CNSS), E. G. Putra (INSS),
T. J. Sato (Chair, JSNS), K.-Y. Kim (KNBUA),
K. G. Suresh (NSSI), W.-H. Li (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.



Public Relation Report

from 2019/11/18 to 2020/06/19

2019/11/18 AONSA EC Meeting AT KENTING (AOCNS 2019)

David Cortie (University of Wollongong)

New publications relations officer

- ▶ Thank you to Taku Sato for his service over the past years and for helping with technical transfer period.
- ▶ New public relations officer – David Cortie
(University of Wollongong, Australian Neutron Beam User Group ANBUG)



- ▶ If you would like anything posted to the AONSA website:
Contact: dcortie@uow.edu.au
Mobile: +61 479124131



Magnetism / solid state physics
Polarized neutron reflectometry
Quasielastic/ inelastic neutron spec

Survey of AONSA communications channels:

- ▶ Wordpress website: <http://aonsa.org/>
- ▶ Regular newsletter <http://aonsa.org/aonsa-newsletters/>

- ▶ Social media presence?

*Seeking EG approval to activate
new AONSA profile*

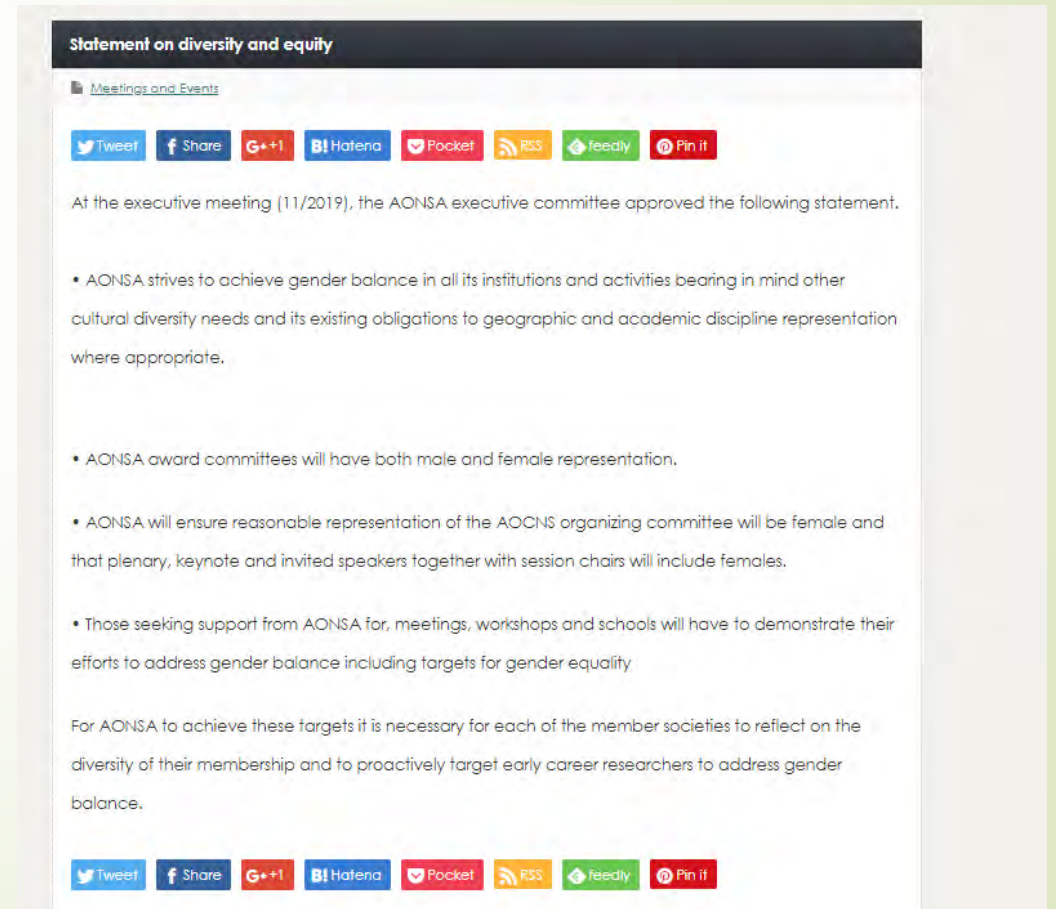
- ▶ Mailing list

Internal member mailing list to coordinate newsletter and EC meetings



Mailing list and website activities

- 2020-19-06 – Added diversity statement as approved in EG previous meeting and repeated verbatim from the news letter.
- Also updated News and Menu sections of website.



The screenshot shows a website page with a dark header containing the title "Statement on diversity and equity". Below the header is a breadcrumb trail "Meetings and Events" and a row of social media sharing buttons for Twitter, Facebook, Google+, Hatena, Pocket, RSS, Feedy, and Pin it. The main content area contains a paragraph: "At the executive meeting (11/2019), the AONSA executive committee approved the following statement." This is followed by a bulleted list of five points regarding gender balance and representation. The page concludes with another paragraph about the necessity for member societies to reflect diversity and target early career researchers. A second row of social media sharing buttons is located at the bottom of the page.

Statement on diversity and equity

Meetings and Events

Tweet Share G+1 Hatena Pocket RSS Feedy Pin it

At the executive meeting (11/2019), the AONSA executive committee approved the following statement.


- AONSA strives to achieve gender balance in all its institutions and activities bearing in mind other cultural diversity needs and its existing obligations to geographic and academic discipline representation where appropriate.
- AONSA award committees will have both male and female representation.
- AONSA will ensure reasonable representation of the AOCNS organizing committee will be female and that plenary, keynote and invited speakers together with session chairs will include females.
- Those seeking support from AONSA for, meetings, workshops and schools will have to demonstrate their efforts to address gender balance including targets for gender equality

For AONSA to achieve these targets it is necessary for each of the member societies to reflect on the diversity of their membership and to proactively target early career researchers to address gender balance.

Tweet Share G+1 Hatena Pocket RSS Feedy Pin it



News letter and web site

- ▶ AONSA News Letter Vol.11 was uploaded February 2020 (Thanks to Taku Sato)
 - ▶ Currently issuing call for new content for next edition.
- 

The next AONSA newsletter

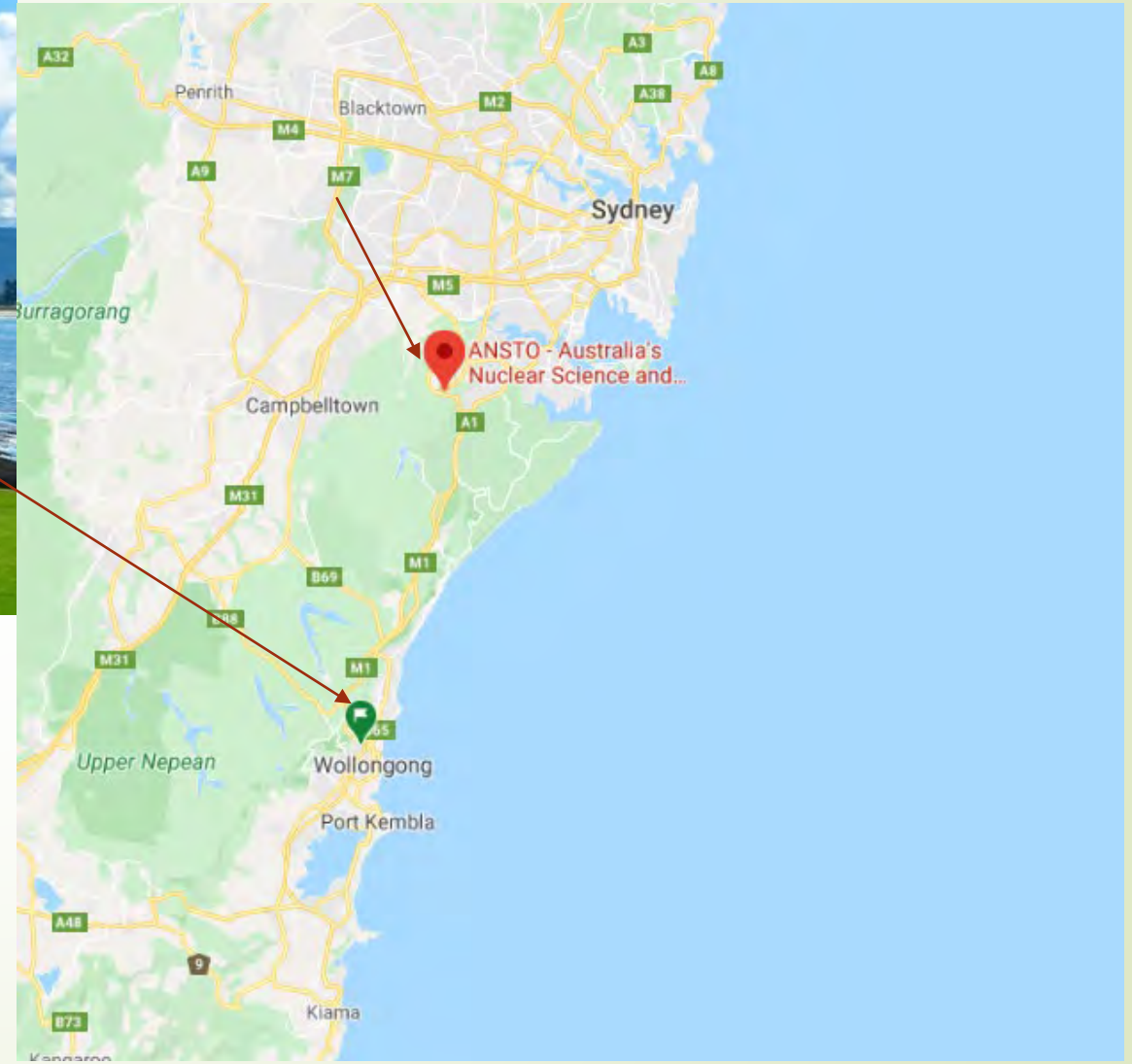
- To be issued in September, 2020

Deadline: 1 July, 2020

- Tentative Contents:
 - 1 President's message ([Dongfeng Chen](#))
 - 2 Reports on the AONSA EC meeting (Jae-Ho Chung)
 - 3 Neutron facility directors meeting report ([F. Wang](#))
 - 4 AONSA Prize ([Taku Sato](#))
 - 5 AONSA Young Research Fellows ([Taku Sato](#))
 - 6 AONSA Neutron School ([F. Wang](#))

dcortie@uow.edu.au

- 7 Reports from neutron associations
 - ANBUG ([T. Rushmer](#))
 - CNSS ([D. Chen](#))
 - INSS ([Darminto](#))
 - JSNS ([K Kakurai](#))
 - KNUBA ([J.-H. Chung](#))
 - NSSI ([S. M. Yusuf](#))
 - TWNSS ([KW Lin](#))
 - Thailand ([T. Rattanawongwiboon](#))
 - Malaysia ([A. A. Mohamed](#))
- 8 Reports from neutron facilities
 - J-PARC ([T. Otomo](#))
 - JRR-3 ([M. Takeda](#))
 - ANSTO ([J. Schulz](#))
 - KAERI ([Wanchuk Woo](#))
 - CARR ([T Li/Kai Sun](#))
 - CSNS ([F. Wang](#))
 - National facility for neutron beam research (India) ([S. M. Yusuf](#))
 - BATAN ([I. Sumirat](#))
- 9 Other reports which are given at the EC meeting.



The 19th Facility Directors Meeting

Date: Friday 19th June, 2020

Time: Sydney 2:00 pm; Japan 12:00; Korea 12:00 pm;
China 11:00 am; Indonesia 10:00 am; India 8:30 am

Location: ZOOM internet conference



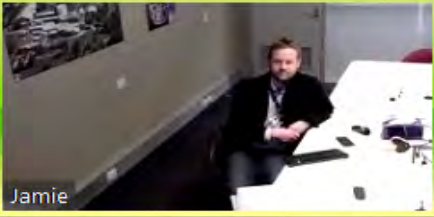
Mittal



Kenji Nakajima



Brendan Kennedy



Jamie



Ania



Apichate Maneewong



Taku Sato



Wanchuck WOO



masa



Toshiya Otomo



Hideki Seto



Hsiung Chou (TWNSS)



fwwang



Sungil Park, KAERI



rifaim



Evvy Kartini



jaehc



加倉井和久



Yun Liu



Dongfeng Chen



chenhs

Courtesy of Kenji Nakajima

Participants (26 in total):

[Chair] Fangwei Wang (CSNS)

[Secretary] Kenji Nakajima (J-PARC/JAEA)

[FDM Members]

Wanchuck Woo (HANARO)

Toshiya Otomo (J-PARC/KEK)

Masayasu Takeda (JRR-3/JAEA)

Jamie Schulz (OPAL)

Kai Sun (CARR/CIAE)

P. U. Sastry (DHRUVA)

Rifai Muslih (G. A. Siwabessy)

[Special Observers]

Sungil Park (HANARO)

Anna Paradowska (OPAL)

Yuntao Liu (CARR)

[Apologies]

Gong Jian (CMRR)

Iwan Sumirat (G. A. Siwabessy)

[EC Board Members]

Dongfeng Chen (President; CNSS, CIAE)

Taku J. Sato (Vice-president; JSNS, Tohoku Univ.)

Jae-Ho Chung (Secretary; KNBUA, Korea U)

Hsiung Chou (Treasurer; TWNSS, National Sun Yat-Sen U)

Brendan Kennedy (Former-president; ANBUG, U. Sydney)

Hideki Seto (AONSA Office Liaison; KEK)

[EC Members]

Hesheng Chen (CNSS, IHEP)

Kazuhisa Kakurai (JSNS, CROSS)

Liu Yun (ANBUG, Australian National U)

Tracy Rushmer (ANBUG, Macquarie U)

Chun-Chuen Yang (TWNSS, CYCU)

Evvy Kartini (INSS, BATAN)

Apichate Maneewong (Thai Community; TINT)

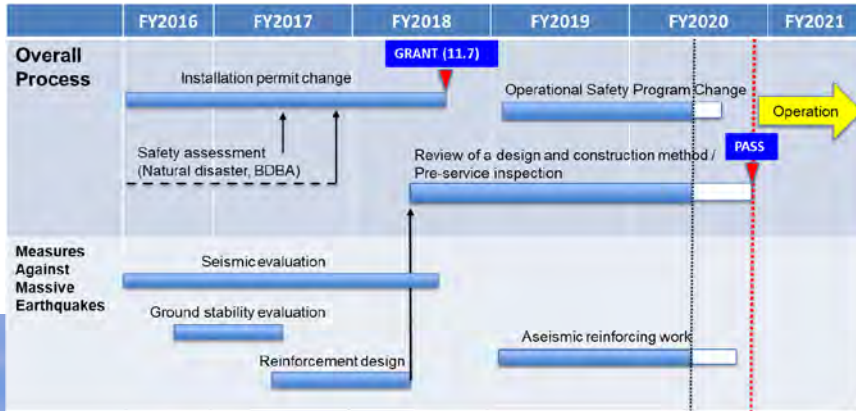
Agenda:

1. Opening remarks
2. Self-introduction of attendees
3. Purpose & Role of the FDM
4. Approval of Agenda
5. Review of last meeting notes
6. Facility Updates (10 min each, **ppt slide(s) on COVID-19 Impact proposed, including of Facility operations impact, User program impact, Facility planned restart date, User Program restart & backlog management, Planned next call for user proposals**)
 - (1) JRR-3
 - (2) J-PARC
 - (3) CSNS
 - (4) HANARO
 - (5) OPAL
 - (6) CARR/CIAE
 - (7) CMRR
 - (8) DHRUVA
 - (9) G. A. Siwabessy
7. AONSA Business
 - (1) AONSA Young Research Fellows
 - (2) Next AONSA Neutron School
8. Discussion on the challenges, opportunities and cooperation of neutron facilities
 - (1) Collaboration in this special COVID-19 pandemic duration**
 - (2) Experience to build/upgrade the art-of-state neutron instruments**
9. Other business:
 - (1) Next Chair & Secretary
10. Closing remarks
11. Photo (**PrtSc**)

Facility Updates

Status and Activities of JRR-3

*Osamu Yamamuro (ISSP),
Masayasu Takeda, and Yoji Murayama (JAEA)*

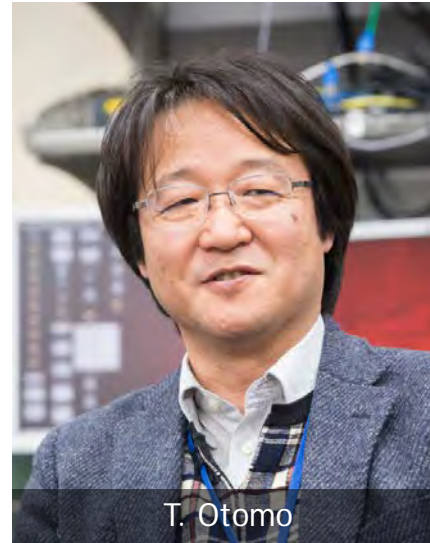


- The reinforcement work is going ahead.
 - The reactor will restart in the end of February 2021 as scheduled.
 - General use proposal will be accepted in this November.
- ISSP continues to support access to international facilities for Japanese researchers
 - FY2019: 47 persons
 - ISSP applied proposals for FY2019, general use: 81, IRT: 14
 - ISSP research activities carried out at overseas, e.g., ANSTO, NIST, ILL, ORNL, etc.



Status of MLF/J-PARC

- Management renewed
- The facility was forced to shut down due to the impacts of COVID-19, but it has now restarted
- The proton beam power was ramped up to 600 kW
- Enhancements of Mail-in service and remote experiment are under consideration
- Call for proposals (2020B+2021A) has been opened



Status of CSNS

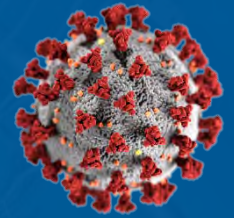
- CSNS has conducted stable operations at 100 kW.
- Four rounds of user proposals have been completed, and 189 user experiments have been conducted. COVID-19 affect quite slightly the operation.
- Further more important scientific results were achieved, more than 30 peer-reviewed papers has been published.
- More sample environments have been calibrated and used by users.
- MPI, the first user instrument, started its installation.



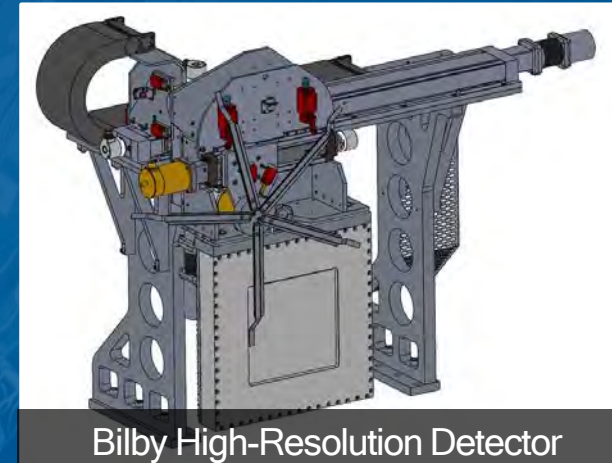
Status of HANARO

- On the last May 29th, finally the 120th NSSC approved the re-start of the HANARO.
- Scheduled by August, 2020, check, replace, and test all the electricity panel boards due to the long stoppage of HANARO and running the operation programs with new parts and systems to avoid any conflicts (without power and beam).
- On October 3rd week (for 4 weeks), expected the first run cycle and possibly will digest the long standing research topics for internal research contracts in this year
- In the next year, 2021, a proper International User Program will be launched.

ANSTO Status Report - Jamie Schulz



- OPAL milestone 312 operation days in 2019
- 23rd March ANSTO moved to an essential and critical operations mode with all scientific research infrastructure being shutdown
- 25th May staff commenced return to site
- 23rd June restart user operations
- 3 month outage to Neutron Guide Hall instruments deferred until April-July 2021 for TG123 primary shutter replacement
- New projects progressing well
 - Bilby high-resolution detector
 - Koala refurbishment & upgrade



1 2 3 4 5 6

1 Empowering & Developing People

ANSTO & Partner Workforce
74 + 5 Staff

Non-Employee Early Career Researchers
8 Post-Docs
44 PhD Students

2 Enabling and Undertaking World-class Research

World-class Capabilities
15 Neutron Instruments

Scientific Output
210 Articles
5.64 Avg. JF
CY2019

3 Delivering Excellent User Service

Services to Research & Industrial Users
225 of 300 OPAL Reactor Days

Experiments
450+
User Visits
1400+
Per Year

4 Maintaining & Growing Capability

Instrument Utilisation & Availability
81% & 99.9%
CY2019

Sustainable Funding:
OPEX – NCRIS
\$4.216M CY2019
CAPEX – RIIP
\$6.738M FY2022

5 Enhancing Partnerships & Collaborations

Strategic Partners
HZB Helmholtz Zentrum Berlin
THE UNIVERSITY OF TOKYO

Partner on ARC Research Projects
14 Projects
CY2019

6 Supporting & Engaging with Industry

Industry Pays Projects
18 Projects
\$278k Revenue
CY2019

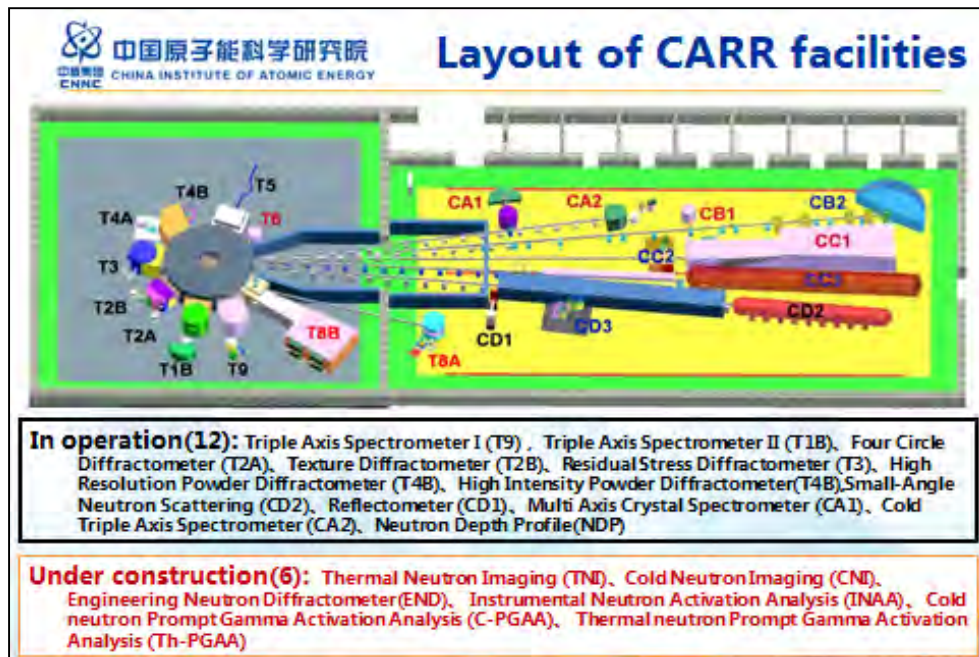
Partner on ARC Industry Projects
6 Projects
CY2019



Facilities Report at CARR

- CARR operation schedule was postponed because of COVID-19, no beam time for neutron scattering in the first half year; CARR will be run 50 days over 30MW in the second half year
- 12 instruments in operation, 6 instruments under construction at CARR
- Several instruments, such as residual stress, texture, HIPD were upgraded to improve their performance
- In-pile shutters of the H-2 and H-4 are overhauled
- Coronavirus Protein structure being investigated through international collaborations.
- Communication and cooperation still going on even COVID-19 impact

Instruments progress



Collaboration, COVID-19 related research



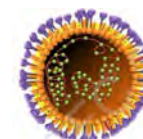
Dr. Anatoly Balagurov talk on powder diffraction



Discussion with scientist China National Petroleum Corp.



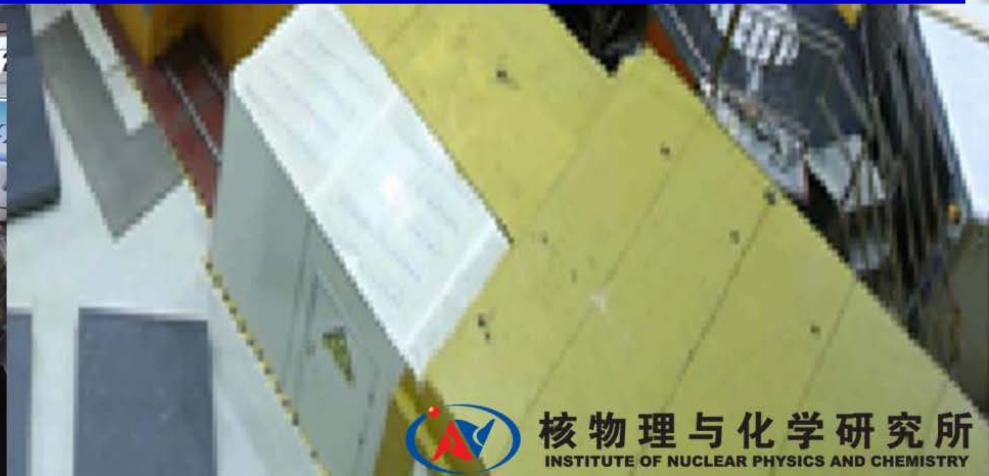
Workshop on nuclear materials



Undergoing research on coronavirus protein structure

Status of CMRR

- CMRR run 203 days in 2019 and 80 days in 2020
- No. of users were more than 100 in 2019
- No. of papers were 58, and proportion of top publications was more than 10% in 2019
- Two new instruments will be commissioned in 2020

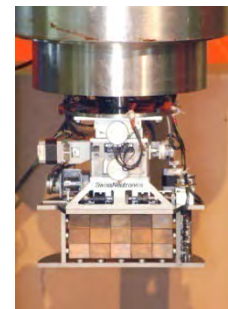
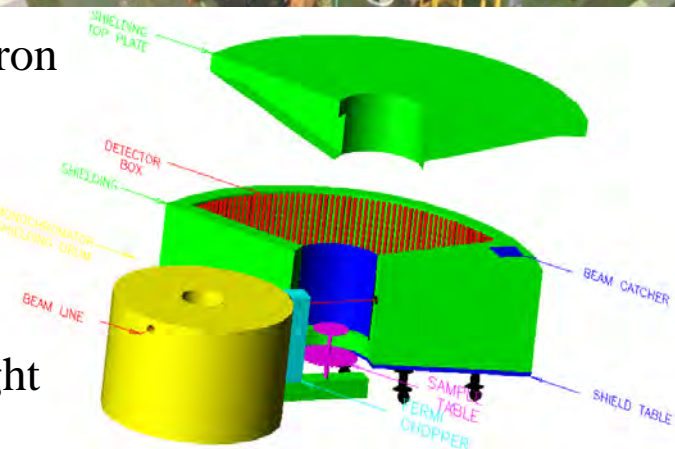


Status of DHRUVA

- 140 operating days in the year (Jan-June 2020) as schedule
- TOF for INS studies has been developed with some salient features



- Focusing neutron monochromator combined with neutron chopper, giving high intensity and energy resolution
- High efficiency, high resolution bank of forty position sensitive neutron detectors, leading to high throughput
- Validation of the performance of Neutron Time-of-Flight Spectrometer has been completed
- Energy resolution-as expected
- Data quality improvement with reduction of radiation background near sample underway

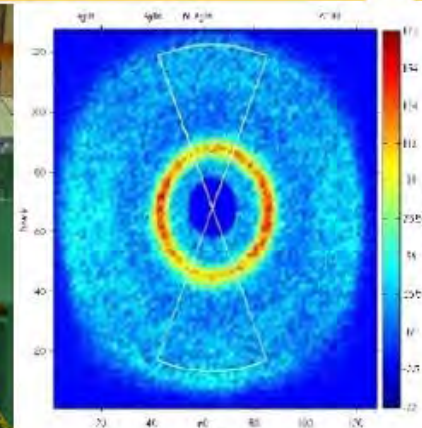


BATAN's Neutron Facility Update June 2020



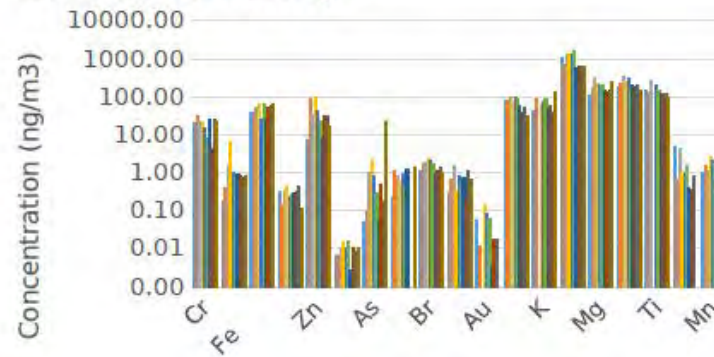
- Reactor 15MW, CW, 8 working instruments, 31 staffs, Operations: 150 days/year.
- The reactor operation schedule slightly revised due to Covid-19.
- Publication:

2016	2017	2018	2019
7	29	21	30



SANS velocity sel.

HRPD: Li ion battery



- Balikpapan
- Semarang
- Lamongan
- Sidoarjo
- Tangerang
- Bandung
- Yogyakarta
- Surabaya
- Jakarta
- Pekanbaru

NAA: air pollutant



Beam tube: valve & shielding replacement

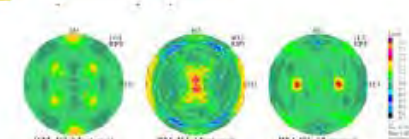


Figure 3. Recalculated Pole Figures of the α' -phase with Triclinic to Orthorhombic Symmetrization

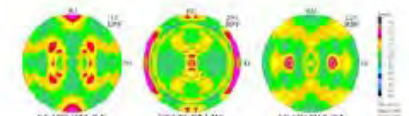


Figure 4. Recalculated Pole Figures of γ -phase with Triclinic to Orthorhombic Symmetrization

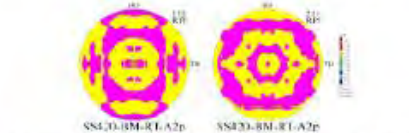


Figure 5. Recalculated Pole Figures of α -phase with Triclinic to Orthorhombic Symmetrization

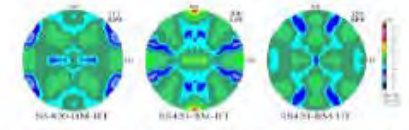


Figure 6. Recalculated Pole Figures of γ -phase with Triclinic to Orthorhombic Symmetrization after preheating

Texture diffractometer

Discussion on the challenges, opportunities and cooperation of neutron facilities

chair

- **Collaboration in this special COVID-19 pandemic duration**

Issues regarding to user operation under COVID-19 pandemic.

- Remote access (un-contact access)
- Overworking of instrumental staff
- Education of users
- Lost of users experience
- Neutron school on Web

- **Experience to build/upgrade the art-of-state neutron instruments**

Collaboration in instrumentation (building and upgrading instruments and related devices) was discussed. All FDM members are positive in such collaboration and sending committee members to advisory board, short stay in the facility (exchange of staff) to learn instrumentation and user support are suggested to promote such collaboration.

- **He-3 gas crisis**

Information regarding to issues on He-3 gas crisis were exchanged.

AONSA businesses

chair

AONSA Young Research Fellows

- 2020 :



Tingting
Song China
ANBUG

CSNS



Jungju Ryu
Republic of
Korea
KNBUA

ANSTO



Taisen ZUO
China
CNSS

J-PARC

- to be postponed until the international travel re-opens.
- Related facilities still keep close contact with them
- 2021 round- OPAL(1), J-PARC(1), CSNS (1), HANARO (0), CMRR (0), BATAN(0), CARR (1)

AONSA Neutron School

- Planned in **Oct 26-31, 2020** at CSNS
 - ~6 days
 - Lecture and hands-on
- To be postponed to 2021, still at CSNS
 - Date: one week in Oct or Nov, 2021,
 - EC meeting and FD meeting combined

Draft Program: Neutron School 2020

Date: Oct 26-31, 2020

Venue: CSNS Campus, Dongguan, China

No. of Students: 40 (~20 from China included)

Registration fee: 350-400 USD (including accommodation & meals)

	Oct 25 (Sunday)	Oct 26 (Monday)	Oct 27 (Tuesday)	Oct 28 (Wednesday)	Oct 29 (Thursday)	Oct 30 (Friday)	Oct 31 (Saturday)
8:00							
8:20		Registration					
9:00		Openning					
9:30		Neutron Source & Technology	Powder Diffraction	Neutron Experiment by 3 Groups	Neutron Experiment by 3 Groups	Data Analysis & Discussion	Reports by 6 Groups
10:00							
10:30		Coffee & Group Photo	Coffee & Discussion				
11:00		Safety and User Training	SANS				Closing
11:30							
12:00		Lunch	Lunch	Lunch	Lunch	Lunch	Lunch
12:30							
13:00	Registration						
13:30		Lecture 1	Lecture 2	Lecture 3	Lecture 4	Lecture 5	
14:00		Neutron Scattering I	Neutron Reflectometry	Engineering Diffraction	Imaging		
14:30			Coffee & Discussion	Coffee & Discussion	Coffee & Discussion	Coffee & Discussion	Presentation Preparation
15:00							
15:30		Neutron Scattering II	Inelastic Scattering	Data Analysis	Data Analysis		
16:00							
16:30							
17:00		Dinner	Dinner				
17:30							
18:00	Reception						
18:30		Guide to User System	Guide to Data System	Party	Party	Banquet	
19:00							
19:30		Introduction	Group Assignment				
20:00							

Next Chair

Kenji Nakajima
(J-PARC/JAEA)



Thank you!

谢谢!

[UNCLASSIFIED]



ANSTO User Meeting 2019

Final Report



CUBBIN, Kelly

5/22/2020

Meeting Details

Date: 2-3 December 2019

Location: Muse Building Macquarie University (3 rooms)

Cost: Full Registration **\$300**; Student Registration **\$150**; One Day Registration **\$150**



Co-Chair Comments – Tracy Rushmer Macquarie University

The AUM 2019 was held for the first time at Macquarie University. It was overall a success and I am pleased to see the survey response and how interested the participants were in learning about other research and that the diversity of topics was good for them. We spent time trying to be sure that areas covered would be relevant and interesting.

The addition of the outreach component was good to have and the panel of scientists answering questions for interested high school students. We had a good uptake of interested schools. Overall, communication between ANSTO and the co-chairs was very good and we were able to deliver, for the most part, an important contribution to the community.

We did have some lessons learned for this conference. While I had good reports from previous conferences held at Macquarie University, the Events team was slow to respond and didn't help Kelly enough just before and during the conference. We may need another venue, but I am told the MQ Events coordination team has been refreshed, so we may be able to address some of our issues if we were to consider Macquarie in the future. One area where communication lagged was around Session Chairs. We need to be sure they are all on board and ready to Chair significantly before the conference begins. Also, we didn't have the certificates ready for award winners. We need to do this for the next AUM.

Committee

Committee Chair – Hannah Wells Massey University	
Tracy Rushmer – Macquarie University (co-chair)	Kelly Cubbin – ANSTO
Mike James – ANSTO	Stephen Holt – ANSTO
Armand Atanacio - ANSTO	Yun Liu – Australian National University
Susan Bogle – ANSTO	Michael Rose - AINSE



MACQUARIE
University
SYDNEY · AUSTRALIA



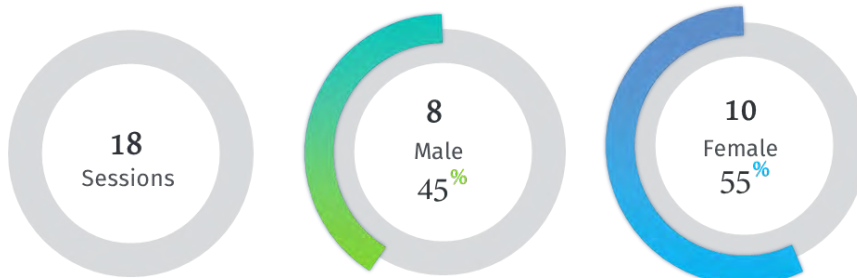
MASSEY UNIVERSITY
TE KUNENGA KI PŪREHUROA
UNIVERSITY OF NEW ZEALAND



Australian National University



Session Chairs



Invited Speakers

Plenary

Prof Silvia Frisa & Dr Andreas Borsate – University of Newcastle Dr Drew Marquardt – University of Windsor

Invited

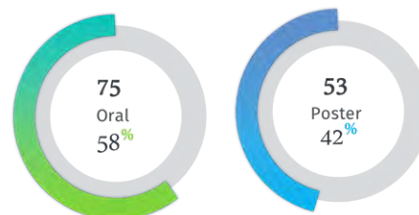
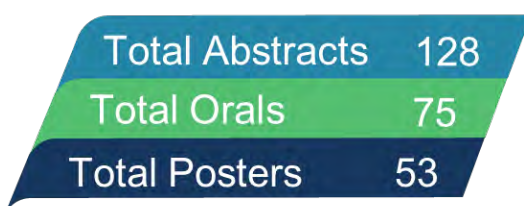
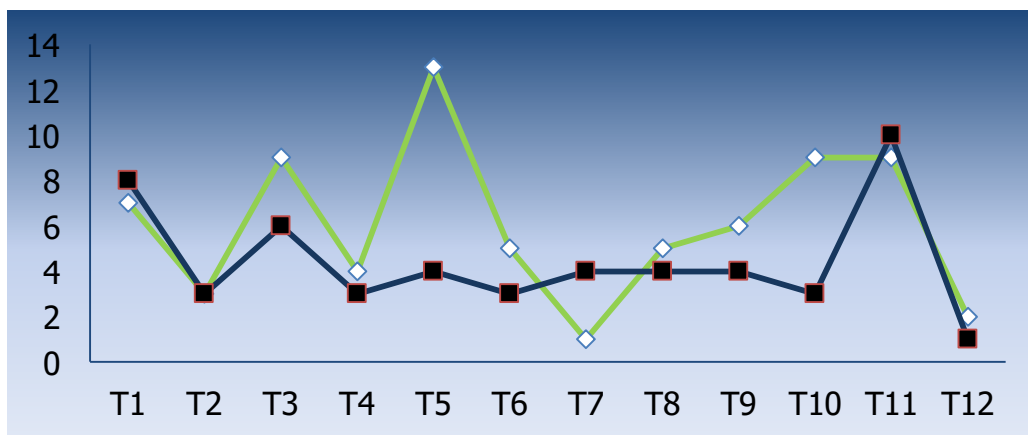
Dr Khay Fong - University of Newcastle	Prof Enzo Lombi - University of South Australia
Dr Paula Dredge - Art Gallery of NSW	Prof David Paganin - Monash University
Dr Peter Lynch - Deakin University	Prof Andreas Magerl - University Erlangen-Nürnberg
Prof Richard Haverkamp - Massey University	Prof Anatoly Rozenfeld - University of Wollongong
Dr Pramod Koshy - UNSW	

**Plenary and invited speakers were provided with free registration and 1 night's accommodation was included for Prof Silvia Frisa.*



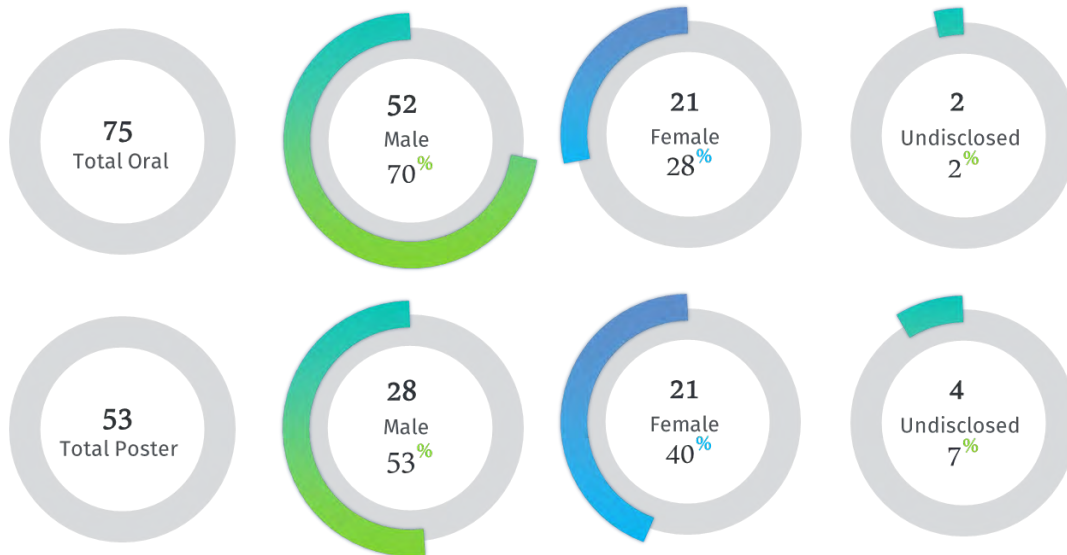
Topics/Streams

T1 - Advanced materials	T2 - Engineering, industry and innovation
T3 - Chemistry and crystallography	T4 - Nanomaterials and nanotechnology
T5 - Structural biology and biological systems	T6 - Food, pharmaceuticals and radiotherapy
T7 - Surface science and thin films	T8 - Earth, interstellar and extreme environments
T9 - Imaging	T10 - Spectroscopy
T11 - Technique Development	T12 - Emergent Physics

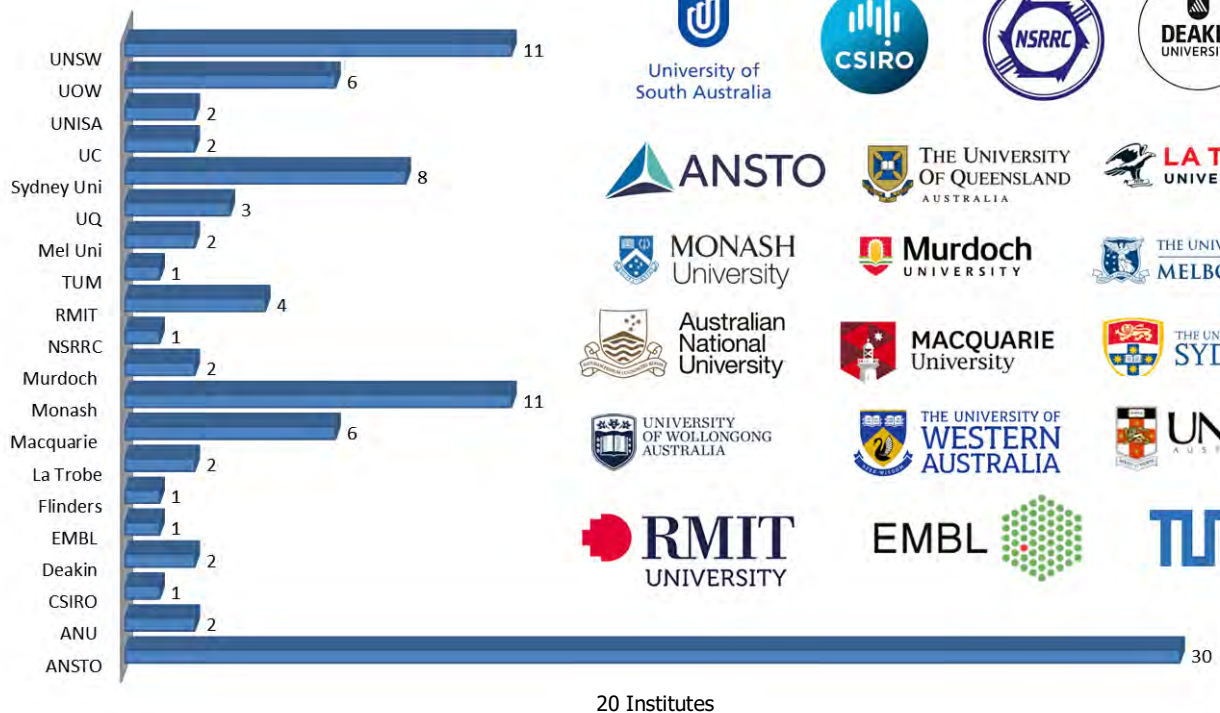


**Total of 139 abstracts were received, 11 withdrawn for various reasons*

Presenters

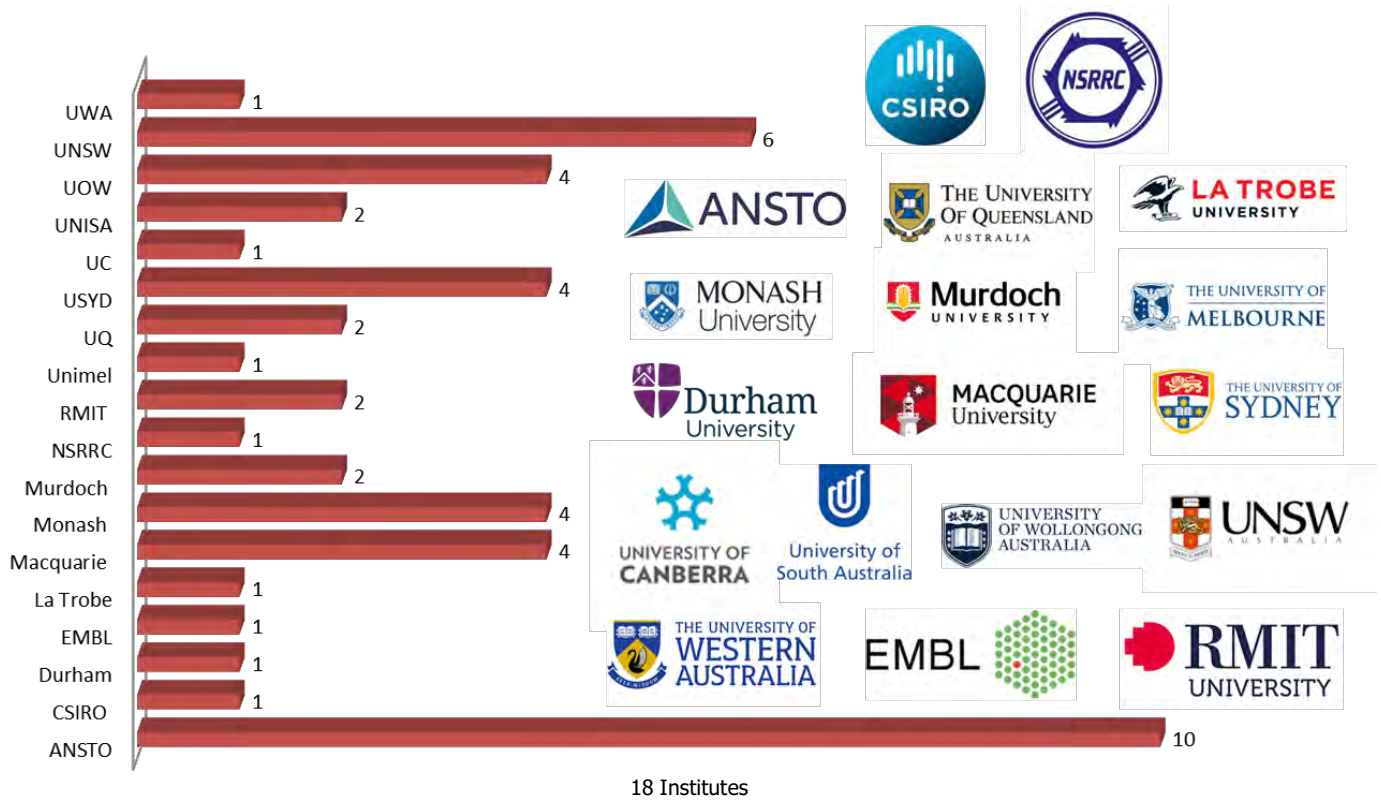


Speakers Institute



*Please note presenters that presented orally and submitted posters are as speakers

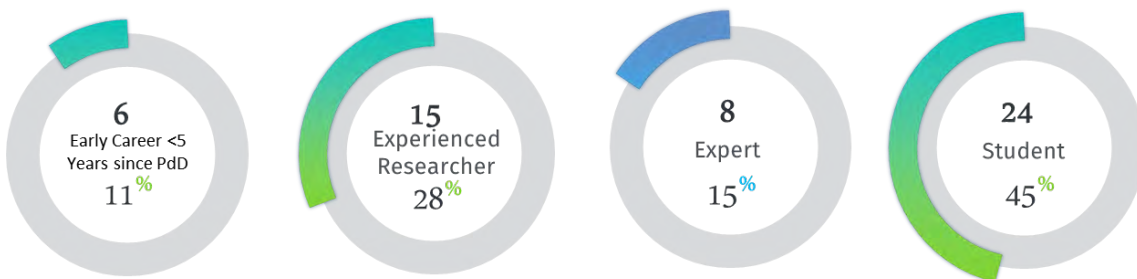
Poster Institutes



Experience - Oral Presenters



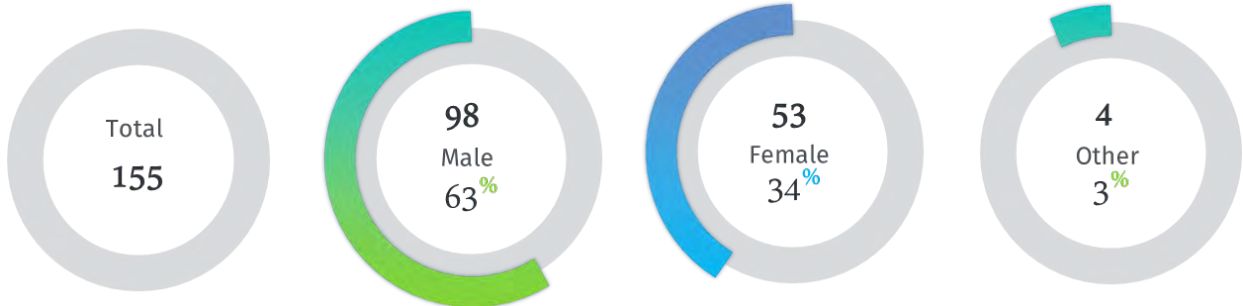
Experience - Poster Submitters



Registration

Registration opened: 10/9/2019 (83 days before event start date)

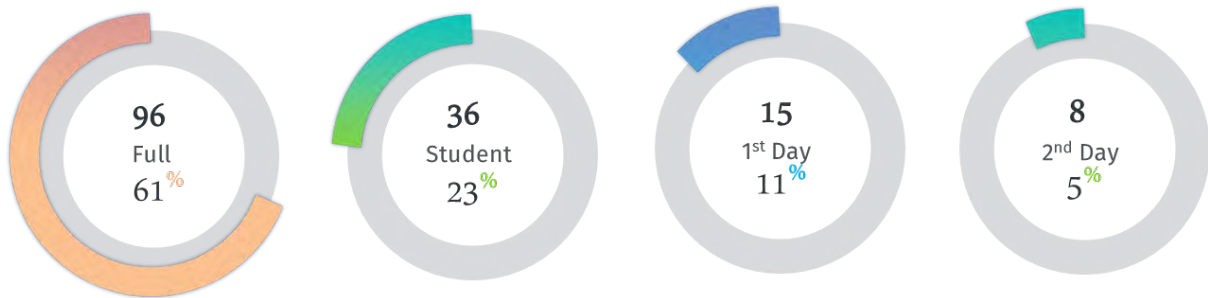
Total Registration



Registrations over time

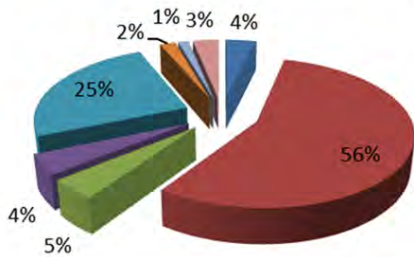


Registration Type



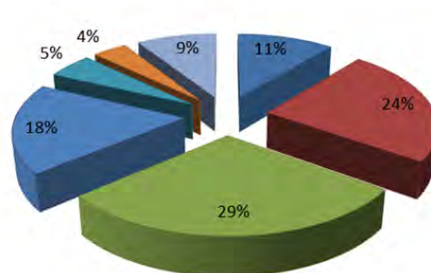
Region

ACT NSW QLD SA VIC WA NZ ROW



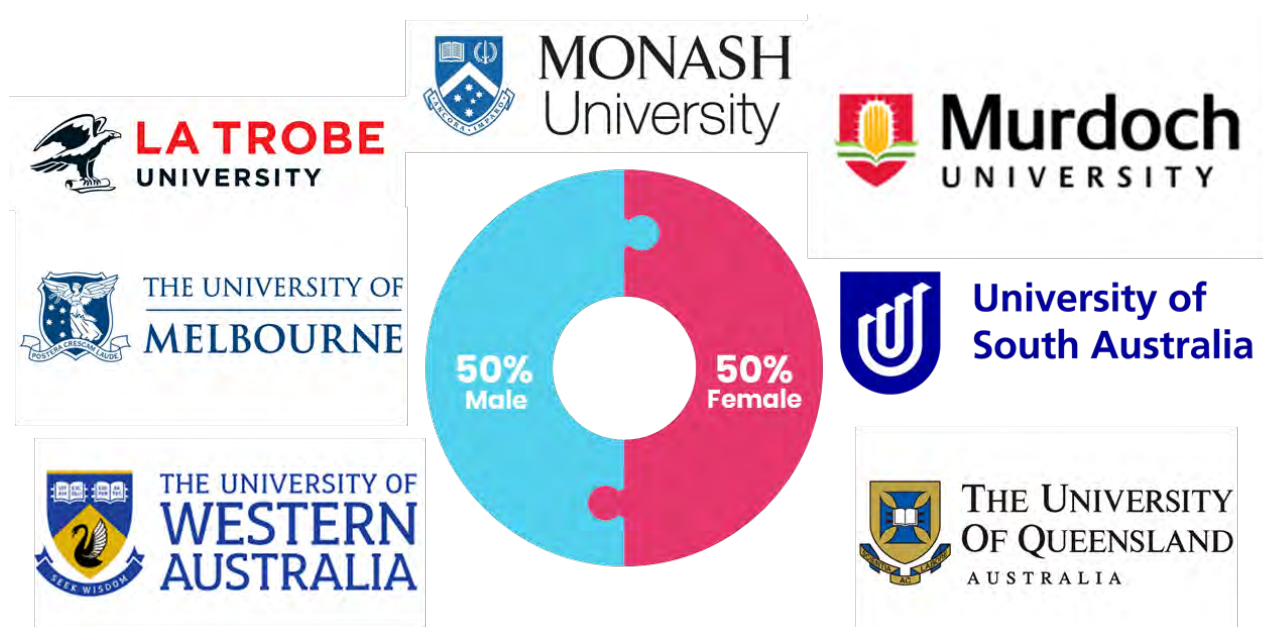
Age Group

18-24 25-34 35-44 45-54 55-64 65+ No Answer



AINSE Support Students

Idowu Adegoke	Murdoch University	Poster
Katherine Davies	The University of Melbourne	Speaker
Muhammet Kartal	Murdoch University	Poster
Olivia Kendall	Monash University	Poster
Joshua King	Monash University	Poster
Tony Kirk	La Trobe University	Poster
Stephanie Macwilliams	University of South Australia	Poster
Joshua Marlow	Monash University	Speaker
Gina Pacheco-Arredondo	Monash University	Poster
Rachana Pathak	The University Of Melbourne	Poster
Piotr Pawlitzak	University of South Australia	Poster
Grace Scullett-Dean	University of Western Australia	Poster
Xin Fu Tan	The University of Queensland	Speaker
Guanglei Zhang	Monash University	Speaker



*Funding was also available from New Zealand Synchrotron Group unfortunately no students applied.

ANSTO Staffing (at event)

Kelly Cubbin	2 ½ days - Event coordinator
Bettina Richen	2 ½ day – back up for event coordinator
Scott Kendall	2 day – user office desk, ensuring all presentations were available for each session
Cathy Harland	2 day – user office desk, registration desk
Therese Donlevy	1 day (2 nd day) - user office desk, bump out
Lista Choi	1 day (2 nd day) – registration desk, bump out
Ashleigh Ambrose	1 day (1 st day) – registration desk
Rena Rose	1 day (1 st day) – registration desk

Award Winners

Posters

1st Place

Joshua King

"Linking microstructure to rheology for wormlike micelles"

Prize: \$3,000 Travel bursary – International Conference

2nd Place

Lisa Djuandhi

"Shedding light on the subtle differences in Li-S cell operation when using safer ionic liquid based electrolytes"

Prize: iPad 7 128gb (\$689.00)

3rd Place

Neil Anderson

"In-Situ Solar Simulation for Organic Photovoltaics"

Prize: Beats Solo3 Wireless Headphones (\$239.00)



MONASH
University



UNSW
SYDNEY



MACQUARIE
University
SYDNEY · AUSTRALIA



Tracy Rushmer – Macquarie University (co-chair) presenting award winners

Poster Slam Winner

Grace Scullett-Dean

"Multiple Trace element incorporation into iron oxides; implications for tailings remediation"

Prize: \$100 gift card



THE UNIVERSITY OF
WESTERN
AUSTRALIA

Australian Synchrotron Awards



Stephen Wilkins Thesis Medal Dr Angus Cowan



This medal is named in honour of Dr Stephen Wilkins, a founder of synchrotron science in Australia. It is awarded annually to the PhD student at an Australian or New Zealand University who is judged to have completed the most outstanding thesis of the past two years whose work was undertaken at and acknowledges the Australian Synchrotron, or the Australian National Beamline Facility (ANBF), or whose work acknowledges and was undertaken under the auspices of the International Synchrotron Access Program (ISAP) or the Australia Synchrotron Research Program ASRP.



2019 Australian Synchrotron Research Award Associate Professor Charlotte Conn

For outstanding research performed at the Australian Synchrotron by a researcher with up to 10 years research experience post-PhD.

Awarded annually to a researcher with (as of November 31 of the relevant year) up to 10 years full-time equivalent career experience since graduating from their PhD (career interruptions will be considered). The awardee will have demonstrated significant research outcomes from the Australian Synchrotron evidenced by their publication record and international standing within their field.

ANBUG Awards



UNSW
CANBERRA

ANBUG Career Award for lifetime achievement
Prof. Stewart Campbell

For sustained contribution throughout the recipient's career to a scientific subfield, or subfields, using neutron scattering techniques.



ANBUG Neutron Award for achievements
>10 years post-PhD
Prof. Vanessa Peterson



For outstanding research in neutron science and leadership promoting the Australian neutron scattering community (>10 years post PhD).



ANBUG Young Scientist Award for achievements
<10 years post-PhD
Assoc. Prof. Rico Tabor

For outstanding research utilising neutron scattering by scientists within 10 years of PhD conferral when accounting for significant career breaks.



THE UNIVERSITY OF
NEWCASTLE
AUSTRALIA

ANBUG Outstanding PhD
Dr Timothy Murdoch



For a PhD thesis on research using neutron scattering techniques submitted to a university in Australia or New Zealand after 1st January the year prior to the award year (i.e., 1st January 2019 for the 2020 award).

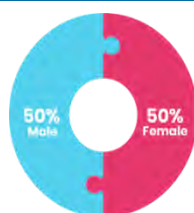
Poster Slam

Students presenting during the Poster Slam will be eligible for prizes for best poster slam presentations. While all poster presenters this year will be able to promote their poster at the Poster Slam, only students are eligible for the Student Poster Slam Prize.

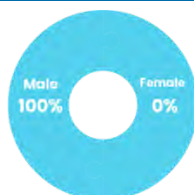
Each poster presenter:

- Had a MAXIMUM of 1 minute to talk about the work contained in their poster.
- Had a MAXIMUM of 1 (one) Powerpoint slide to aid their presentation. Slides must be static (i.e. no animations are permitted)

Students (eligible for prize)	
Porosity evolution in nickel-iron sulphide minerals during hydrothermal reactions	Muhammet Kartal
Corrosion at the Metal-Glass Interface in HIPed Nuclear Wasteforms	Keenan Burrough
In situ synchrotron PXRD study of the replacement of bornite under anoxic conditions	Idowu Adegoke
Integrated Nanoindentation and Modelling Approaches to Determine Ion Induced Hardening Behaviour in AA6061 and MA957	Benjamin Muffett
Self-Assembly of Long-Chain Betaine Surfactants: Effect of Tailgroup Structure on Wormlike Micelle Formation	Veena Kelleppan
Trace element speciation and incorporation in iron oxides within mineral processing residues	Grace Scullett-Dean
Residual Stresses, Metallurgical and Mechanical Properties of Laser Cladded Rail	Olivia Kendall
Effect of Mo + Cr Codoping levels on the photocatalytic performance of Sol-Gel derived and Ion implanted tio2 thin films	Amanda Chen



Non Students (not eligible)	
Charge Density Studies of Photo-redox Metal Complexes: An Experimental Comparison of the Ground and Lowest Excited States.	Michael Pfrunder
Using light to remote control metal-coordination	Kasun Athukorala Arachchige



* **Presentations available on last page**

Meet the Scientists @ the ANSTO User Meeting

The Discovery Centre put a call out to six different schools in the Macquarie area for students to come and experience attending a large scale conference. Students had a chance to speak to our panel of scientist about their personal experiences working in the science industry.

Majority of the students that attended were from:

- Mount St Benedict
- St Leo's
- Strathfield Girls



We had a total of 45 attending (63 registered to attend)

Description

We invite high school students, parents and teachers to attend our *Meet a Scientist* evening at the ANSTO User Meeting at Macquarie University.

You'll have the opportunity to talk with scientists about research they've done using some of ANSTO's landmark infrastructure and capabilities. Many scientists are expected to attend to showcase their recent research accomplishments. This is the first time students and teachers have had access to such a large number of ANSTO scientists and collaborators.

Arrive at 5.15pm for a 5.30pm start.

5.30pm: Presentation - Introduction to ANSTO

5.50pm: Q&A session with a panel of scientists

6.20pm: Students, parents and teachers invited to join the poster session and speak with science ambassadors about their research.

Come and see scientists present their research at a large scientific conference!

For any enquiries, please call the ANSTO Discovery Centre on (02) 9717 3090 or email tours@ansto.gov.au.

Panel of Scientist



Dr Josie Auckett
Department of Chemistry



Dr Jamie Schulz
Leader, Australian Centre for Neutron Scattering



Dr Joseph Bevitt
Senior Instrument Scientist,
Dingo



Dr Anna Paradowksa
Industrial Liaison Manger
Senior Instrument Scientist



Students experience ANSTO's virtual reality demonstration with Rod Dowler (ANSTO)

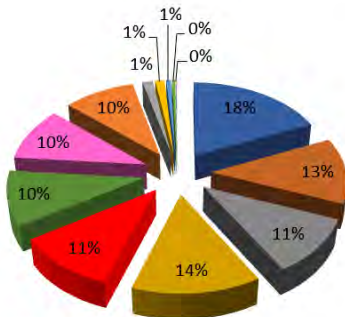


Dr Armand Atanacio (ANSTO) Centre for Accelerator Science speaking with students



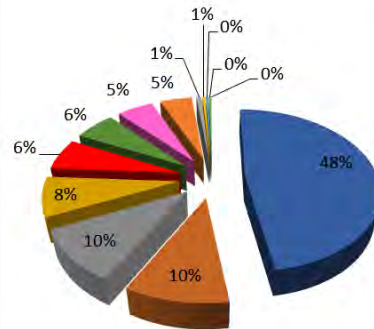
Question time with the scientists

Conference App



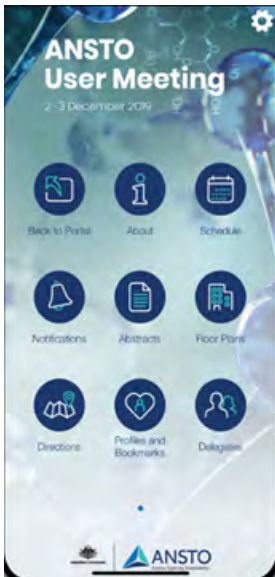
Unique Views

- Schedule
- Attendee List
- Profiles and Bookmarks
- Notifications
- Abstracts
- About
- Directions
- Floor Plans
- Speakers



Total Pageviews

- Schedule
- Attendee List
- Profiles and Bookmarks
- Notifications
- Abstracts
- About
- Directions
- Floor Plans
- Speakers



Total Views

6586

Total Unique Views:

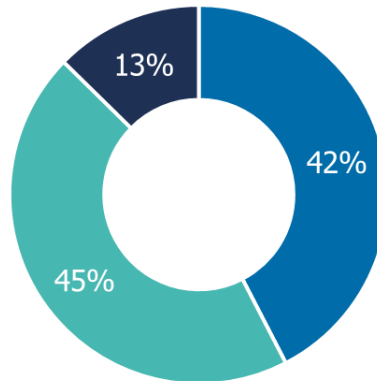
3066

Most visited page

Schedule: 1207

Total App Downloads

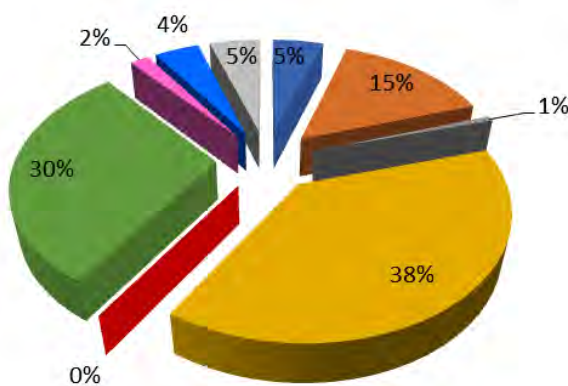
158



- Android
- iOS
- Web Sessions

Registration Kiosk

Name Badges



- Staff
- Delegate
- Exhibitor
- Speaker
- Sponsor
- Poster
- Plenary
- Committee
- Invited

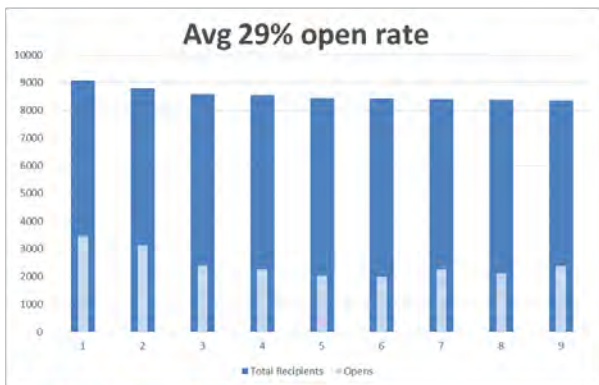


Communication

Mailchimp Bulk Email

27 June	AUM2019 - 1st Announcement	26 June	Call for Abstracts Open
11 Sept	AUM2019 Abstract Closing Soon	16 Sept	5 Days Remaining Abstract Submission
19 Sept	Closing Tomorrow Abstract Submission	20 Sept	CLOSING TODAY Abstract Submission
25 Sept	EXTENDED Abstract Submission	1 Oct	FINAL REMINDER Abstract Submission
1 Nov	Registration Closing Soon		

Email Campaign – Sent v Open



Top Locations

	Australia	3,499	56.4%
	USA	1,616	26.1%
	New Zealand	175	2.8%
	China	170	2.7%
	United Kingdom	151	2.4%

1st Campaign Data

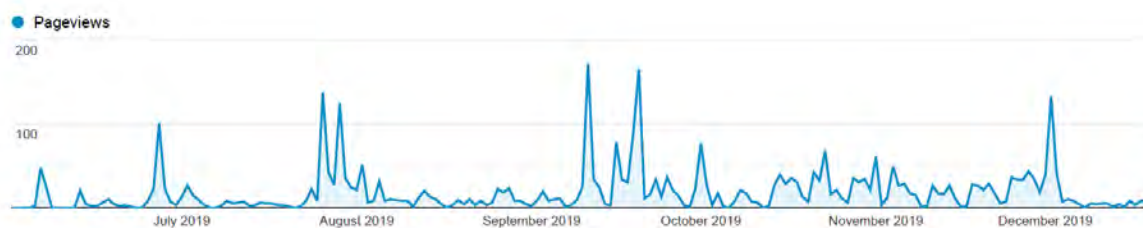
3,435 Opened	326 Clicked	383 Bounced	26 Unsubscribed
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Domain

Domain	Email	Bounces	Opens	Clicks	Unsubs
gmail.com	713 (8%)	1 (0%)	400 (56%)	24 (3%)	8 (1%)
monash.edu	703 (8%)	66 (9%)	452 (71%)	30 (5%)	3 (0%)
ansto.gov.au	438 (5%)	39 (9%)	144 (36%)	31 (8%)	2 (1%)
csiro.au	334 (4%)	16 (5%)	68 (21%)	10 (3%)	1 (0%)
unimelb.edu.au	211 (2%)	3 (1%)	71 (34%)	6 (3%)	0 (0%)
Other	6684 (74%)	258 (4%)	2300 (36%)	225 (4%)	12 (0%)

Website – AUM2019.sydney

Total page view was **3,694** with a bounce rate of **46%** and average time on site is **3 min 48 sec**.



Completed data available on last page

Conference Feedback

Survey had a 23% completion rate

Q1. You are

ANSWER CHOICES	RESPONSES	
ANSTO Facility User	55.56%	20
ANSTO Facility Prospective user	0.00%	0
ANSTO Staff	36.11%	13
Sponsor	2.78%	1
Other	8.33%	3
Total Respondents: 36		

Q3. Which parts of the conference were most beneficial to you

ANSWER CHOICES	RESPONSES	
Learning about other work in the field	80.56%	29
Finding out more about existing or proposed beamlines	33.33%	12
Presentation on techniques and skills	25.00%	9
Networking with colleagues in the field	69.44%	25
Meeting beamline scientists from ANSTO	27.78%	10
Other (please specify)	0.00%	0
Total Respondents: 36		

Q4. Submission Process

ANSWER CHOICES	RESPONSES	
Excellent	25.00%	9
Good	47.22%	17
Fair	8.33%	3
Poor	0.00%	0
I didn't submit an abstract	11.11%	4
No Opinion	8.33%	3

Q8. Rate the range of science topics and disciplines covered

ANSWER CHOICES	RESPONSES	
Excellent	27.78%	10
Good	50.00%	18
Fair	19.44%	7
Poor	0.00%	0
No Opinion	2.78%	1

Complete data available on last page

Program

ANSTO User Meeting 2019

Program

DAY 1 | MORNING Monday 2 December, 2019

Time	Presenter	Room
8:00	Registration	Foyer
9:00	ANSTO Opening Miles Apperley	D
9:10	UAC/ANBAG Opening Haley Wells & Tracy Rusher	D
9:25	ANSTO Organisation Update Miles Apperley	D
10:00	Impact of Pilocarpine on model mitochondrial membranes Drew Marquardt	D
10:30	Morning Tea	Foyer
SESSION ONE <i>Abstracts/Mini-sym</i> 11:00 - 12:25		
11:00	Architectural and Structural Design of Mo-CrO ₂ Heterostructures To Achieve High Theoretical Capacitance Prasad Koshy	C
11:20	In-situ X-ray powder diffraction for Li-ion batteries: The effects of Ni on inhibiting the separation of Cu during the lithiation and delithiation of Cu/Sn anodes Xin Fu Tan	C
11:35	The Electronic and Vibrational Structure Of Lanthanide Zirconates Anton Stampfl	C
11:50	Radiation Damage Characterisation of Organic Semiconductors Jessie Posar	C
12:05	Investigation of the stability range of the skyrmion phase in doped Cu ₂ OSe ₃ Clemens Ulrich	C
12:20	Shedding light on the subtle differences in Li-S cell operation when using safer ionic liquid based electrolytes Lisa Djanjhi	C
SESSION TWO <i>Technique Development</i> 11:00 - 12:50		
11:00	X-ray ghost imaging: Line scans, radiography and tomography David Pagani	D
11:20	Small Angle Neutron Scattering Capability at the Australian Nuclear Science and Technology Organisation Kathleen Wood	D
11:35	Synchrotron Radiotherapy of Pet Cadavers at the Imaging and Medical Beamline in Anticipation of Live Veterinary Animal Trials Liam Day	D
11:50	Australian Synchrotron MX beamlines - The Impact of Dectris Eiger Detectors Daniel Erlsson	D
12:05	Microscopy capabilities at the Australian Synchrotron David Paterson	D
12:20	What Simple Environment Can Do For You Norman Booth	D
12:35	Iterative energy self-calibration of Fe XANES spectra Michael Jones	D
SESSION THREE <i>Chemistry and crystallography</i> 11:00 - 12:50		
11:00	Microsecond-resolved look at the very early stages of quantum dot formation Andreas Magert	B
11:20	Magnetic order induced symmetry-breaking in the coupled honeycomb system Fe ₄ Ni ₂ Ta ₂ O ₂₀ Narendrakumar Narayanan	B
11:35	Structural and electronic modification of KLaTiO_4 hydrogen evolution catalyst Junwei Li	B
11:50	Tailoring liquid crystal phase transitions by addition of silica nanoparticles Joshua Marlow	B
12:05	Exotic Physics in Neutron Lense Diffraction Garry McIntyre	B
12:20	Structure determination of a zinc hydroxide chloride from powder diffraction Fony Wang	B
12:35	Phase and structural evolution of positive electrodes in lithium and sodium-ion batteries Neeraj Sharma	B
12:50	Lunch	Foyer
SESSION FOUR <i>Engineering, industry and innovation</i> 14:00 - 16:50		
14:00	Materials development for Aerospace applications Peter Lynch	C
14:20	Study of the microstructure of carbon fiber monofilaments at the Australian Synchrotron SAXS/WAXS beamline Pablo Mota-Santiago	C
14:35	Solving industry problems using neutrons - 5 years of the Industrial Liaison Office at the Australian Centre for Neutrons Scattering Anna Paradzewska	C
SESSION FIVE <i>Technique Development</i> 14:00 - 16:30		
14:00	Australian Centre for Neutron Scattering Update Jamie Schulz	D
14:15	BioSAXS: the new solution scattering beamline at the Australian Synchrotron Christina Kamma-Langer	D
SESSION SIX <i>Chemistry and crystallography</i> 14:00 - 16:30		
14:00	Unexpected Phase Transitions in AMO ₄ scheelites Brendan Kennedy	B
14:15	Chemical Crystallography with neutrons at OPAL - KONA falls a premise Alison Edwards	B
SESSION SEVEN <i>Structural biology and biological systems</i> 14:30 - 16:05		
14:00	Synchrotron techniques in environmental and agricultural science: the advantages of higher throughput and enhanced sensitivity Enzo Lombi	D
14:15	Molecular Deterioration at the National Deterioration Facility: Diversity of Molecules and Application Karyn Wilde	D
SESSION EIGHT <i>Earth, interstellar and extreme environments</i> 14:30 - 16:00		
14:30	In situ XAS measurement of silicate liquids using the high pressure and temperature D-DIA facility at the Australian Synchrotron Tracy Rushmer	B
14:45	In-situ synchrotron X-ray tomographic study of stress-dependent porosity and permeability behaviour of fractured coal Guanghui Zhang	B
15:05	Afternoon Tea	Foyer
SESSION NINE <i>Food, pharmaceuticals and radiotherapy</i> 15:30 - 16:30		
15:30	Lipid Self-assembly in Digesting Milk-like Emulsions Andrew Calow	C
15:45	Using nuclear techniques to investigate the plant absorption and mobility of foliar applied zinc Casey Doolittle	C
16:00	Nuclear techniques for combating food fraud and authenticating quality Neil Saintilan	C
16:15	Gamma irradiated vaccines: concepts and applications Mohammed Alsharif	C
SESSION TEN <i>Structural biology and biological systems</i> 15:30 - 16:45		
15:30	Using Neutron Reflectometry to Understand Antibiotic Resistance in Gram-negative Bacteria at the Outer Membrane Anton Le Brun	D
15:45	Understanding MLKL's molecular switch mechanism using two novel MLKL pseudokinase orthologue structures Katherine Davies	D
16:00	Elucidating the mechanisms of small molecule cryoprotection using Neutron Membrane Diffraction Gary Bryant	D
16:15	Flexibility of Lipid Bilayer Membranes in Ionic Liquids Shurui Miao	D
16:30	The Structure of the Murine CD94/NG2A Complex Reveals Convergence With the Human Homologue Julian Vrbian	D
SESSION ELEVEN <i>Earth, interstellar and extreme environments</i> 15:30 - 16:15		
15:30	How long was the LGM in East Antarctica? Insights from in-situ ¹⁴ C dating of bedrock surfaces Duanne White	B
15:45	Multimodal, multiscale chemical and structural imaging of vein-formation processes Michael Jones	B
16:00	Two birds with one stone: leaching of alkaline mineral wastes enhances CO ₂ sequestration and concentrates trace metals Jessica Hamilton	B
SESSION TWELVE <i>Biophysics and biological systems</i> 16:30 - 16:45		
16:30	Dye - TiO ₂ Interfacial Structure in Dye-Sensitized Solar Cells Samira McDonald	B
16:45	UAC Winner Charlotte Goom	D
17:15	ANBAG Winner Stewart Campbell	D
POSTER SESSION 16:30 - 16:45 Foyer		

DAY 2 | MORNING Tuesday 3 December, 2019

Time	Presenter	Room
8:00	Registration	Foyer
9:00	Opening Address Silvia Frisla	D
9:15	SR-micro XRF and Transmission Electron Microscopy: advances in the accuracy of past climate and environmental interpretation from carbonate crystals data. Stephan Wilkins Medal Winner	D
9:45	Morning Tea	Foyer
SESSION FOURTEEN <i>Structural biology and biological systems</i> 10:15 - 10:45		
10:15	Nano and Microstructure Investigation of Silk Fibrin-Based Hydrogels for Biomedical Applications: A Small Angle Scattering Jitendra Mata	D
11:00	Structural basis for the recognition of nectin adhesion proteins by the Natural Killer cell receptors, TIGIT, CD96 and DNAM-1 Richard Berry	D
11:15	Protein-Eye View of the in Meso Crystallization Mechanism Leonie van't Hag	D
11:30	Ionising Radiation and Cell Membranes Stephen Holt	D
11:45	Cytoplasmic accumulation of the Alzheimer's disease- and ALS-linked RNA-binding protein SFPQ by zinc-induced polymerisation Mihnea Lee	D
12:00	Molecular Mechanisms governing θ -T-cell receptor autoreactivity towards CD8b Adam Shahine	D
SESSION FIFTEEN <i>Nanomaterials and nanotechnology</i> 10:45 - 11:55		
10:45	Stiffness and structure in collagen materials Richard Haverkamp	B
11:05	Tuning the magnetic performance of hexaferrite magnets via nanostructuring Matilde Saura-Mazquiz	B
11:20	SANS, USANS and rheo-SANS of novel surfactant self-assembly Rico Taber	B
11:35	Recent development of solid-state microdosimetry for RBE study of ion therapeutic beams and radiation protection of astronauts in space Anatoly Rosenfeld	B
SESSION SIXTEEN <i>Spectroscopy</i> 11:00 - 12:50		
10:45	Adventures in Iron Biochemistry: X-ray Spectroscopy as a Tool for Studying Biological Iron Coordination Chemistry Simon James	C
11:00	The Thermal Triple-Axis and Filter Spectrometers on TAIPAN Anton Stampfl	C
11:15	Characterisation of Na ⁺ dynamics in γ -Na ₃ -ZnMgPO ₄ Emily Cheung	C
11:30	Ultra-high-resolution neutron spectroscopy of low-energy spin dynamics in UTe ₂ Franz X Haslbeck	C
12:25	Lunch	Foyer
SESSION SEVENTEEN <i>Spectroscopy</i> 13:30 - 14:30		
13:30	Combining Far-IR from beneath and UV-Vis from above to follow de-oxygenation and re-oxygenation of haemoglobin in blood. Stewart Walker	C
13:45	Inelastic Neutron Scatterings Reveal Mechanism for Barocaloric Effects in Plastic Crystals Dehong Yu	C
14:00	Toward the phase analog of XAFS Chanh Tran	C
14:15	The MEX beamlines at the Australian Synchrotron Chris Glover	C
SESSION EIGHTEEN <i>Imaging</i> 13:30 - 15:10		
13:30	Visible and hidden paintings: Bronzino's Cosimo I de' Medici in armour 1540s Paula Dudge	D
13:50	Dynamic transformations of drug delivery systems by proteins: when equilibrium studies are not enough. Khay Fong	D
14:10	Neutron Micro-Computed Tomography: A Revolution in Non-Destructive Paleontology Joseph Bevitt	D
14:25	Present and Future Neutron Imaging Applications on DINGO at OPAL Ulf Garbe	D
14:40	Neutron Super Resolution Ghost Imaging Andrew Kingstom	D
14:55	Ion beam microscopy in serve of material investigations Zeljko Pastusovik	D
SESSION NINETEEN <i>Emergent Physics</i> 14:30 - 15:00		
14:30	FeMnGa ₂ Zn ₁₀ O ₁₆ : a Spin-Liquid Candidate with a Perfectly Isotropic 2-D Kagome Lattice Chris Ling	D
14:45	Patterning topological insulators using ion beams David Cortie	D
15:10	Afternoon Tea	Foyer
15:30	Prizes & Closing Remarks	D

Showcasing scientific success

Sponsors

Platinum Sponsor - \$4,400



MONASH
University

*Please note ANSTO contribution was in-kind support

Gold Sponsor - \$2,750



Silver Sponsor - \$1,000



Silver Exhibitor - \$3,500



Partnership - \$6,000 (NZD)



Student Sponsorship



Full sponsorship opportunities available on last page

What's New

2 Day Conference

The length of the meeting changed from 2½ days in 2017 down to 2 days for the 2019 event and this seemed to work with having a longer day on day 1. Experience from previous meetings was that it is difficult to have delegates stay for the ½ day unless they are presenting. This change in duration also assisted in lowering the cost.

Student Pricing

After listening to feedback from AUM2017 we offered student pricing for AUM2019 which was provided at half the price of the full registration.

Registration Kiosk

For the first time (for any NSTLI event) AUM2019 obtained the services of Crowdcomm to assist us with the registration desk. The service was efficient and streamlined with delegates scanning their emailed QR code or typing in their surname at the kiosk, their conference name tag printed out in seconds. This was a great cost saving for supplies and time. Non-tearable tags were used so the requirement of plastic inserts was avoided.

Meeting Rooms

This meeting had three rooms adjacent to each other which was first time for this conference. This change was well received and many delegates commented on how this allowed delegates to quickly transit from one session to another.

Communication

AUM2017 communication was sent via standard email this had restrictions as only 1000 address could be emailed at a time from a database of over 9000 address, for AUM2019 Mailchimp was used as an alternative this enable all address to be communicated at the same time and we were able to capture data to assist in improving communication.

Meet the Scientist

Panel of 4 scientists answered questions from local school as to what it is like working in the science industry.

Speaker Bio/Photos

With previous events we had manually collated the information for the speakers bio's and photos. This was very time consuming with copying and pasting into a spreadsheet and then resizing & renaming photo's into a folder which then needed to be uploaded for the conference app. There was also the follow up required for the speakers that had not provided their details.

After speaking with IT a package was developed with a link that could be sent to all speakers, requesting the required details to be uploaded and then a report could be run and exported with the speaker bio's and photo in a suitable format, this system also sent reminder emails to the speakers that had not provided their information by the required date.

ANSTO Exhibits

Exhibits from CAS (Centre for Accelerator Science) ACNS (Australian Centre for Neutron Scattering) and AS (Australian Synchrotron) were displayed for delegates to view (this idea came from NUS2019). If this is to continue it would be ideal if we could have easy transportable displays (maybe digital displays).

ANSTO User Office

For the first time we had staff from the ANSTO User Office Lucas Heights and Clayton manning a table to answer any questions from delegates.

Coffee Cart

This meeting we hired the services of a barrister and coffee cart instead of instant coffee this was available from 8:00am – 3:30pm on day one and 8:00am till after lunch on the 2 day. We had paid for 420 cup for the two days and used the entire quantity. Feedback was well received for this item (this idea came from User Meeting 2018)

Opportunity for Improvement

Session Chairs

All chairs should be formally invited and displayed in the program. They should also be asked to provide detailed information of their experience roles and responsibilities. This also included chairs for plenary speakers and award winners.

Venue

The meeting rooms and pre-event responsiveness worked well for this event, however we would need to carefully consider about booking another event at Macquarie as while we had access to a dedicated event person prior to the event and also were made to pay daily charges for staff, when requests were made to move heavy items that had been incorrectly placed the response was poor. This was especially disappointing when we were advised that we needed to wait for people to become available when the venue was clearly aware that the event was about to start and we needed a quick response – which was not forthcoming.

I paid for three hours on a Sunday for our bump in and expected the meeting rooms would already be arranged and I made arrangement with the Macquarie event planner before the event for the staff to set up the poster boards. When we arrived on the Sunday there was only one staff member there and none of the chairs had been set up. By the time this was completed there was only ½ hour left from the 3 hours I had already paid for and was advised by the supervisor that I would have to pay additional fees for the staff member to complete the setup. I was then asked if we could get ANSTO staff to help in the morning. I then needed to use ANSTO staff that was there to help with the bump in on the exhibits etc. to assist in to assist in setting up the poster boards so we were ready to commence at 7:00am the following day.

ANBUG and UAC Award Winners

The winners did not receive certificates on the day/night; need to obtain ANBUG and UAC templates. Only certificates that were handed out were for the ANSTO Student Poster Prizes.

Gender Equity

While every effort is made at the start of organising this event there is room to improve, our gender balance, areas to work on are invited speakers, Oral presenters and registration. We did achieve 50/50 on Plenary, eligible poster slam presenters and AINSE Students Sponsorship.

Meet the Scientist

While this event was successful the panel should consist of a more diverse group as we had 3 scientists from ANSTO (maybe review the delegates list and invite researchers from there)

Poster Slam

10 people participated in the Poster Slam only 8 were eligible for the prize. Should try and increase the participation in future events (maybe increase the prize) Initially 23 students advised they would take part in poster slam when submitting abstracts.

Student Attendance

Focus on increasing student attendance. At this meeting 23% of attendees were students compared to 29% in 2017.

Survey

Try and increase the response received from feedback survey, this was sent after the event (maybe send last day of conference). Also possibly think about an incentive such as a prize to increase response rate.

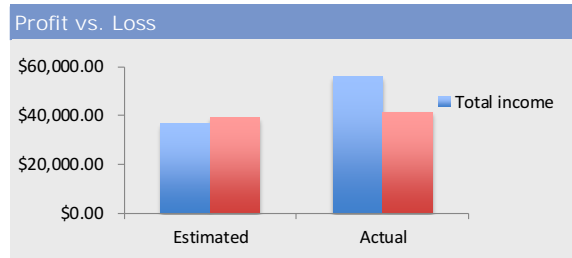
NZ Students

Even with funding available from the NZ Synchrotron Group for NZ students and NZ is a founding investor in the Synchrotron we did not receive any applications from NZ students.

Budget

Event Budget for AUM2019: PROFIT/LOSS SUMMARY

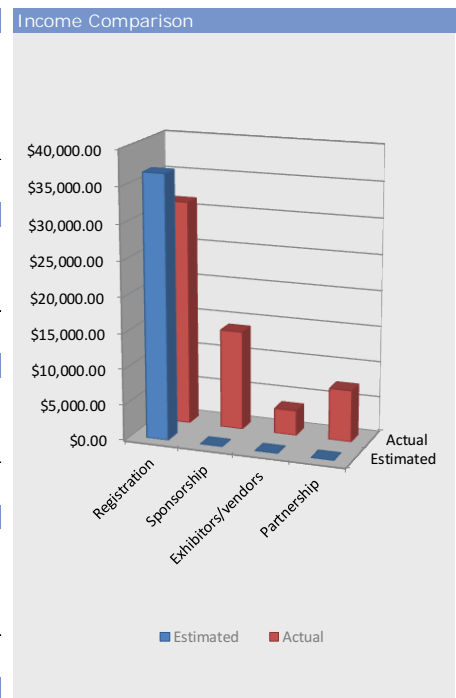
	Estimated	Actual
Total income	\$36,750.00	\$56,002.80
Total expenses	\$39,015.00	\$41,046.36
Total profit (or loss)	(\$2,265.00)	\$14,956.44



Sponsorship was not incorporated into the original budget
 Wages (in-kind support) have not been included at any stage.

Event Budget for AUM2019: INCOME

Registration		Estimated	Actual	
Estimated	Actual			
90	95	Full Registration @ \$300.00	\$27,000.00	\$28,500.00
60	36	Student @ \$150.00	\$9,000.00	\$5,400.00
5	16	One Day @ \$150.00	\$750.00	\$2,400.00
	1	Promo @ (\$3,890.00)	\$0.00	(\$3,890.00)
	1	Merch Fees @ (\$1,039.50)	\$0.00	(\$1,039.50)
			\$36,750.00	\$31,370.50
Sponsorship		Estimated	Actual	
Estimated	Actual			
	1	Platinum @ \$4,400.00	\$0.00	\$4,400.00
	2	Gold @ \$2,750.00	\$0.00	\$5,500.00
	4	Silver @ \$1,000.00	\$0.00	\$4,000.00
			\$0.00	\$13,900.00
Exhibitors/vendors		Estimated	Actual	
Estimated	Actual			
	1	Gold @ \$3,500.00	\$0.00	\$3,500.00
		Silver @ \$0.00	\$0.00	\$0.00
		@ \$0.00	\$0.00	\$0.00
			\$0.00	\$3,500.00
Partnership		Estimated	Actual	
Estimated	Actual			
	5732.3	Items @ \$1.00	\$0.00	\$5,732.30
	3	Items @ \$500.00	\$0.00	\$1,500.00
		Items @ \$0.00	\$0.00	\$0.00
		Items @ \$0.00	\$0.00	\$0.00
			\$0.00	\$7,232.30
Total Income		Estimated	Actual	
		\$36,750.00	\$56,002.80	



Event Budget for AUM2019: EXPENSES

Site - FC	Estimated	Actual
Room and hall fees	\$4,000.00	\$4,000.00
Event Leader staff	\$840.00	\$839.40
Bar set up	\$300.00	\$415.44
Staff Charges Venue	\$840.00	\$786.98
Total	\$5,980.00	\$6,041.82

Rentals - FC	Estimated	Actual
Coffee Cart	\$2,500.00	\$2,518.31
Phone Charging Station	\$1,000.00	\$0.00
Poster Boards	\$3,245.00	\$1,705.00
Registration Kiosk	\$5,000.00	\$4,968.70
Total	\$11,745.00	\$9,192.01

Printing & Marketing - FC	Estimated	Actual
Pull Up Banners	\$500.00	\$250.00
Conference App	\$3,000.00	\$3,520.00
Domaine Name	\$100.00	\$100.00
Mailchimp (emails)	\$1,000.00	\$570.27
Total	\$4,600.00	\$4,440.27

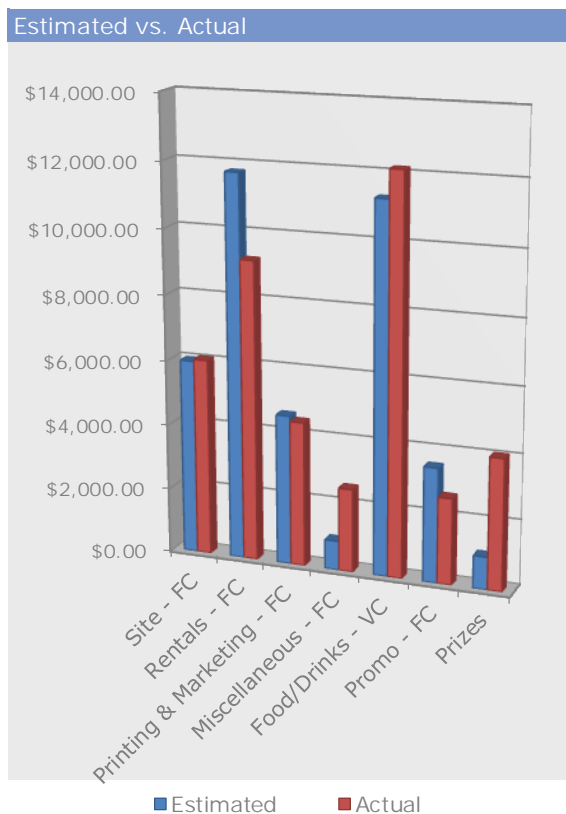
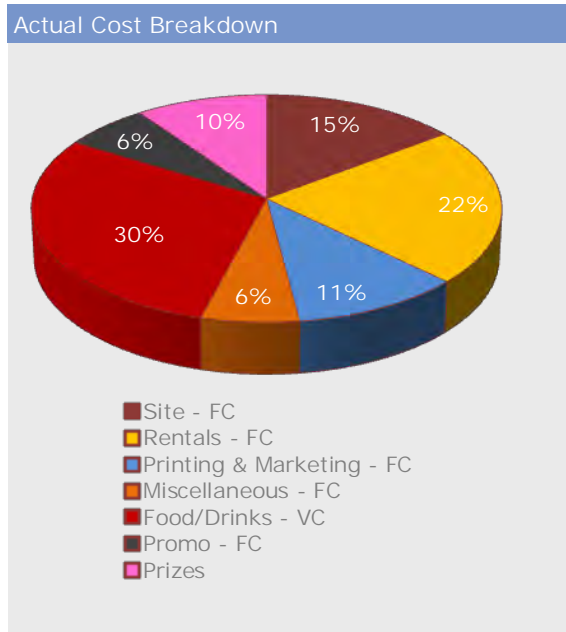
Miscellaneous - FC	Estimated	Actual
Table Cloths	\$195.00	\$60.00
Freight	\$500.00	\$256.00
Stationery supplies	\$200.00	\$141.99
Hand outs	\$0.00	\$300.00
Mointors (5)	\$0.00	\$354.20
KC Accommodation	\$0.00	\$470.01
Prof Accommodation	\$0.00	\$239.07
BR Airfaire/accomm	\$0.00	\$735.18
Total	\$895.00	\$2,556.45

Food/Drinks - VC	Estimated	Actual
Food (155 - 2 days)	\$7,750.00	\$7,475.00
Lunch Drinks (155 - 2 days)	\$775.00	\$747.50
Cocktail Food (100)	\$1,250.00	\$2,437.50
Drinks @ \$15 per head (100)	\$1,500.00	\$1,045.00
School Exhib	\$0.00	\$428.00
Total	\$11,275.00	\$12,133.00

Promo - FC	Estimated	Actual
Laynards (200)	\$350.00	\$188.40
Tote Bags (200)	\$970.00	\$386.25
Water Bottles (150)	\$2,200.00	\$2,072.60
Total	\$3,520.00	\$2,647.25

Prizes	Estimated	Actual
Poster Prizes 2nd,3rd & Slam	\$1,000.00	\$1,035.56
1st Place Poster Prize	\$0.00	\$3,000.00
Total	\$1,000.00	\$4,035.56

Total Expenses	Estimated	Actual
	\$39,015.00	\$41,046.36



Reasons for difference between estimated and actual can be located in the embedded file on last page.

Comparisons 2019 v 2017

	2019 Sydney	2017 Melbourne	Up/ Down	%
Registration				
Total	155	186	↓	17%
Male	98	118	↓	17%
Female	54	67	↓	20%
Other	4	0	—	N/ A
Abstracts				
Total	128	170	↓	24%
Oral	75	88	↓	14%
Poster	53	82	↓	35%
Presenters Experience				
Student	37	54	↓	31%
<5 year	13	23	↓	43%
Exp Researcher	37	N/ A	—	N/ A
Expert	41	N/ A	—	N/ A
Income				
Registration	\$ 31,370.50	\$ 44,280.50	↓	29%
Sponsorship	\$ 24,632.30	\$ 13,200.00	↑	86%

Files



ANSTO-UserMeeting2
019-Abstract-Booklet 1

ANSTO User Meeting Abstract Booklet

Incorporating: Sponsors & Exhibitors advertisement , abstracts, program



Actual Budget.xlsx

ANSTO User Meeting Final Budget with comments



Combined Data.pdf

ANSTO User Meeting Survey Data & Responses



AUM2019 Feedback
Survey.xlsx

ANSTO User Meeting Survey All Data



AUM2019 Mailchimp
Stat.xlsx

ANSTO User Meeting Mailchimp Stats



ANSTO-User-Meeting
-2019-SponsorExhibitc

ANSTO User Meeting Sponsorship Opportunities



ANSTO-User-Meeting
-Ad-Specs.pdf

ANSTO User Meeting Ad Specs



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ANSTO User Meeting Program Day 1 & 2



Poster Slam PDF.pdf

Poster Slam Slides



AUM-2019-pullup-ban
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ANSTO User Meeting Pull Up Banner



ansto_user-meeting_
design_download-post

ANSTO User Meeting Event App Poster



AUM Name Tags
2019.jpg

ANSTO User Meeting Name Tags



Analytics
www.ansto.gov.au Pa

AUM2019.Sydney Website Analytics

Report from China Neutron Scattering Society

Hesheng CHEN

AONSA EC Meeting June 20, 2020

Outline

- 1 CNSS activities overview**
- 2 Status of CARR,CMRR and CSNS**
- 3 Summary**

Outline

1 **CNSS activities overview**

Neutron Scattering Facilities in China

User community > 2200 and expands quickly



CNSS working plan

- Promote neutron scattering research and application, as well as the neutron instrumentation R&D ;
- Coordination of the spectrometer development and running planes of 3 facilities;
- Training users and students;
- Standardization of experimental methods and user interfaces;
- Promote the output of scientific results;
- Road map of neutron scattering sciences and facilities;
- Promote International cooperation and exchanges;
-

Establish working groups for major fields of NS application

- Promote academic exchanges and cooperation in working groups
- Promote the writing of professional series in various neutron fields
- Establish awards to encourage young researchers

CNSS working groups to promote the NS technology and application

Established 11 working groups

(covering Chinese User Community , included HK and Macao) :

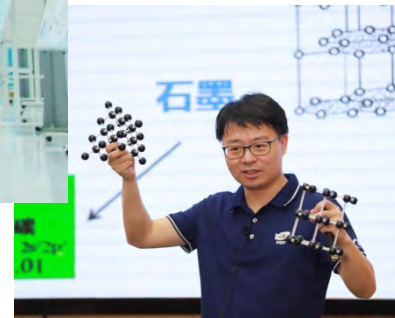
- **Software and Data Analysis**
- **Detector**
- **Small Accelerator Neutron Source**
- **Polarization Neutron Technical**
- **Monte Carlo Simulation System for Neutron Transport**
- **Engineering Stress Research**
- **Inorganic Solid Material Characterization**
- **Lithium Battery Technology**
- **Neutron Scattering Standards**
- **Neutron Optics Technology**
- **Deuterium Technology**

CSNS user activities during the epidemic



- CSNS keeps the normal operation.
- In the early stage, the experiments were carried out by mailing samples.
- With the gradual improvement of the epidemic situation, under the protection of epidemic prevention measures, the first user arrived at CSNS to do neutron experiment on Mar. 15.
- Archaeological research by neutron imaging .

- On-line Public Science Day at CSNS during the epidemic on May 22, 2020.
- a total of 300,000 views were received on web..



Guangdong-Hong Kong-Macao Joint Laboratory for Neutron Scattering Science and Technology established



- Rely on CSNS, providing an important research platform for the Guangdong-Hong Kong-Macao Greater Bay Area.
- One of the first 10 joint laboratories to be approved in Guangdong Province
- Multidisciplinary , Applied and Basic Study of Neutron Scattering



- On Nov. 23, 2019, the International Symposium on Polarization Neutron Technology was held in Dongguan



- Dec. 29, 2019, Concluding session of the "Strategic Research in the Development of Neutron Science and Technology"



- Dec. 7-8, 2019, Seminar on the Frontier Research of Particle Physics in High Power Hadron Accelerator

CARR Activities 2020

Meet Experts and Users, COVID-19 related research



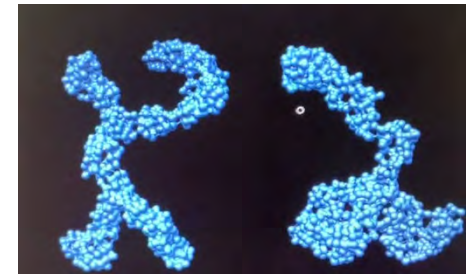
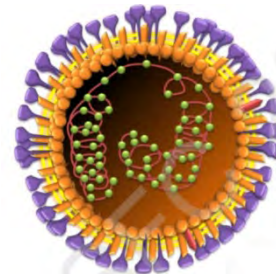
Dr. Anatoly Balagurov talk on powder diffraction



Discussion with scientist from China National Petroleum Corporation



Discussion with experts on nuclear materials



Ongoing research on coronavirus protein structure in solution

Activities in CMRR

Conference and Summer School

- On July 22^{ed}-26th, 2019, the summer school of “Neutron scattering” was held in Mianyang, Organized by Graduate school, and Institute of Nuclear Physics and Chemistry, China Academy of Engineering Physics



- On Sep. 17th, 2019, the first national small Angle scattering conference was held in Mianyang, organized by the small Angle scattering committee of Chinese crystal society



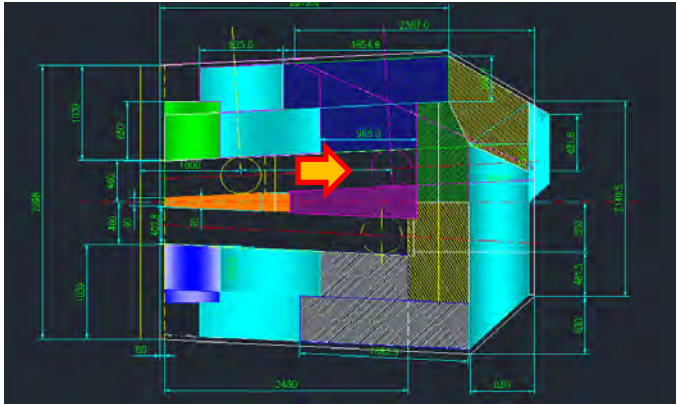
Outline

2 Status of CARR, CMRR and CSNS

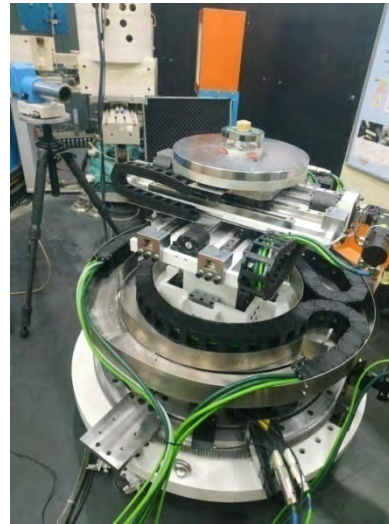
2.1 CARR Activities 2020

Instruments development

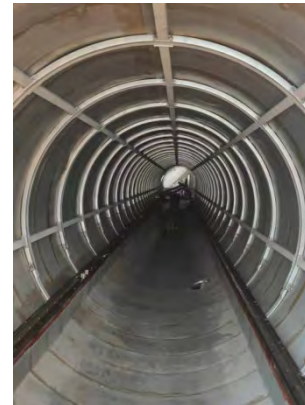
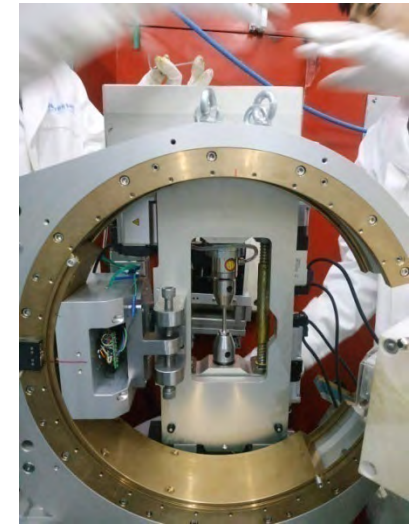
HIPD shielding upgrade



New sample stage for RSD



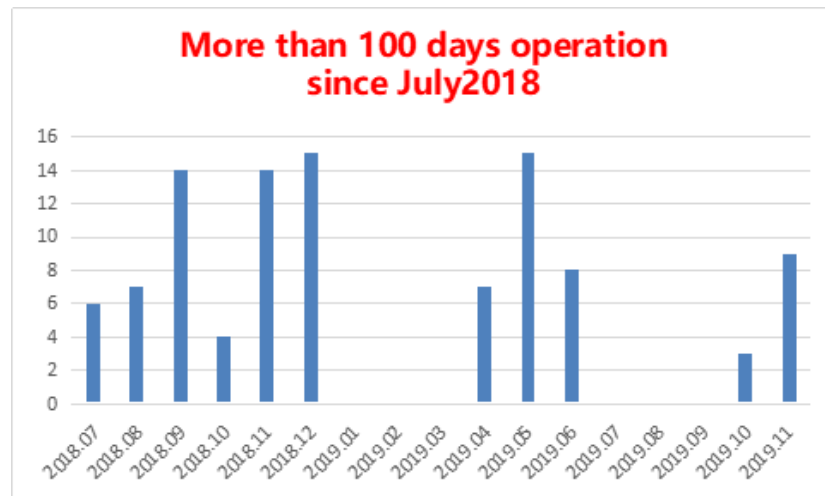
New sample environment for Texture



SANS detector Cd shielding strengthened

CARR scientific results

- ◆ Research fields: ion battery materials, hydrogen storage materials and magnetic materials et. al.
- ◆ In Jun. 2019, the neutron depth profile technology was used to realize the in-situ measurement of lithium battery on the CARR reactor NDP device, providing an advanced dynamic test method for the development of the national lithium battery.
- ◆ In 2019, 12 related articles were published.

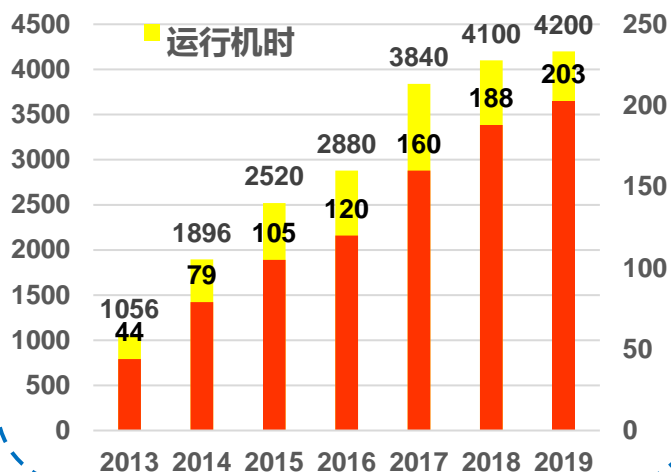


2.2 Instruments construction and operation in CMRR

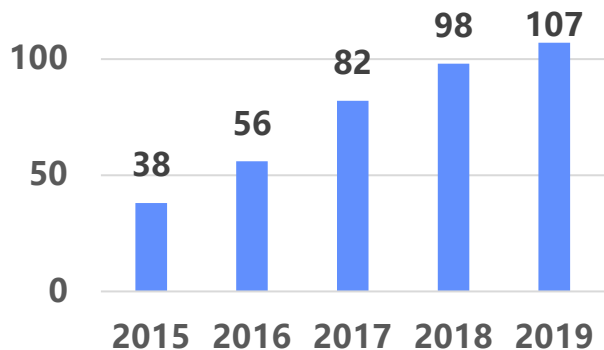
Operation time annually

203 days/2019

73 days/2020 (until May)

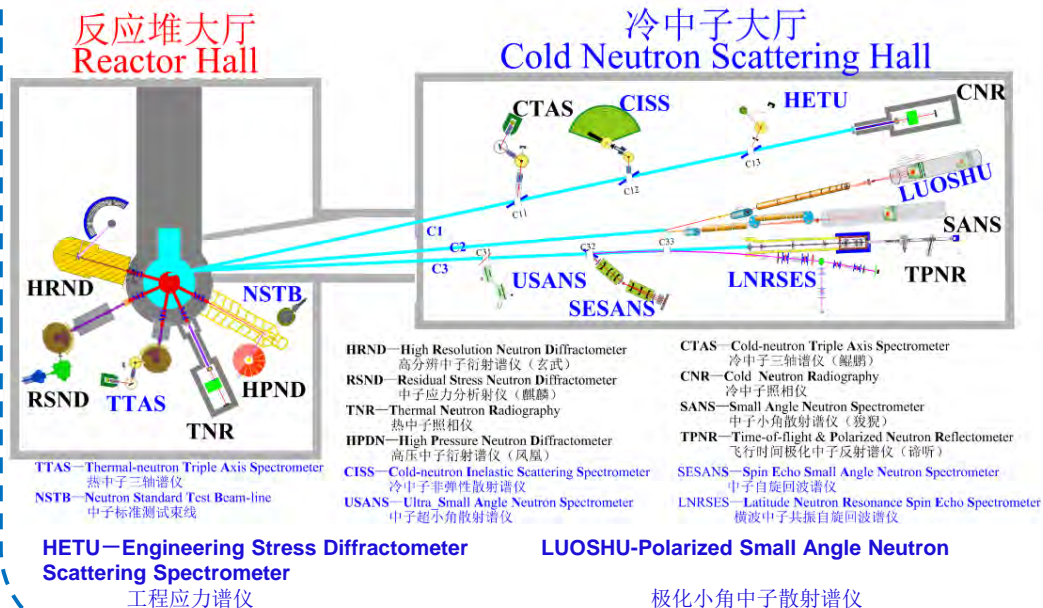


Annual users of CMRR



Eight new instruments are under construction:

1. Two will be finished this year
2. Others will be finished in 2-3 years

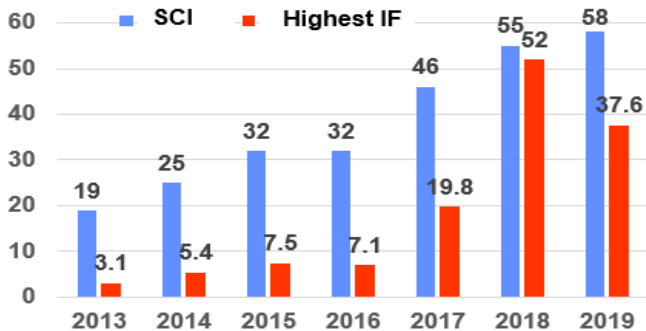


Under operation

- High Resolution Powder Diffractometer
- High Pressure Neutron Diffractometer
- Residual Stress Neutron Diffractometer
- Cold neutron Triple-Axis Spectrometer
- Small-Angle Neutron Scattering
- TOF and Polarized Neutron Reflectometer

Publication in CMRR

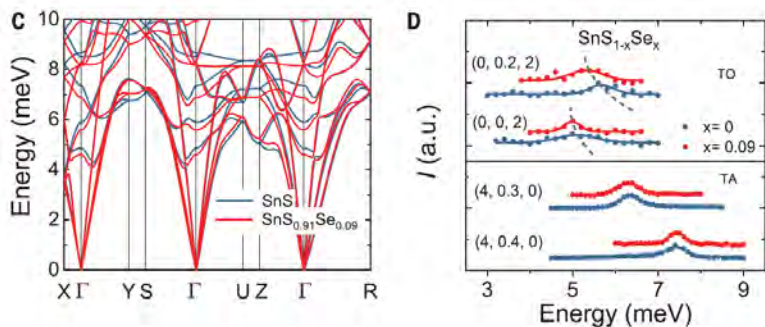
- The publications: 58 papers in 2019, around 20 papers in 2020 so far.
- Published a book named as '*Neutron Diffraction Measurement, Computation and Control of Welding Residual Stress*', in Chinese



Publications at CMRR for the last 7 years



By CTAS-Kunpeng

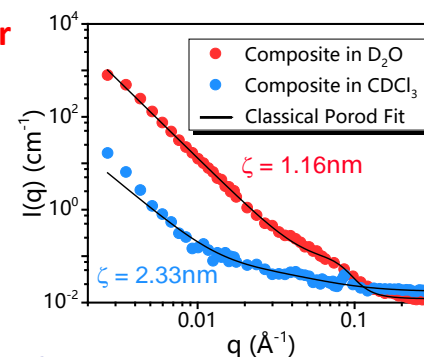
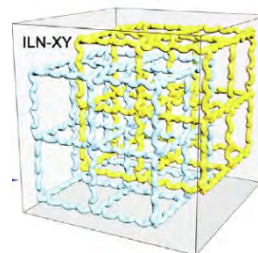


Phonon softening in thermoelectrics

Wen-Ke He *et al.*, *Science* 365 (2019), 1418–1424

By SANS-Suanni

Interlocked Polymer Networks



Homogeneity of the polymer blends

MQ Zhang*. *Materials Today*, 2020 (33), 45-55

2.3 China Spallation Neutron Source

Day 1: Completed in March 2018

In 2020, time to:

- beam power reach 100 kW
- 5 rounds of proposal
- User Instruments
- Proposal for Phase II upgrade

CSNS user service system (5 rounds of proposals)

<https://user.csns.ihep.ac.cn>

(Official opening-Beamtime application, Chinese and English version)

Register an account

Submit a proposal



First Circle

2018.9.25 - 2019.1.31

Second Circle

2019.2.11- 6.30

Third Circle:

2019.9.26-2020.1.16

Fourth Circle:

2020.2-2020.6

Fifth Circle:

2020. 2020.10.25-2021.2.5

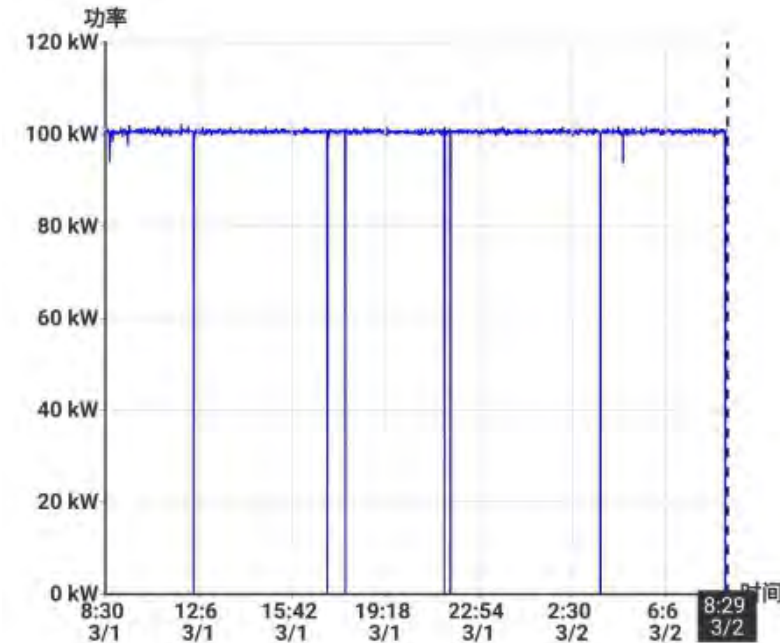


Proposal type :

1. Direct access
2. Rapid access

CSNS Beam Power reached the design goal of 100KW

Feb.28,2020, CSNS achieved stable operation with 100KW, reaching the design target one and a half years in advance. Since then it has conducted stable operations at 100 kW.



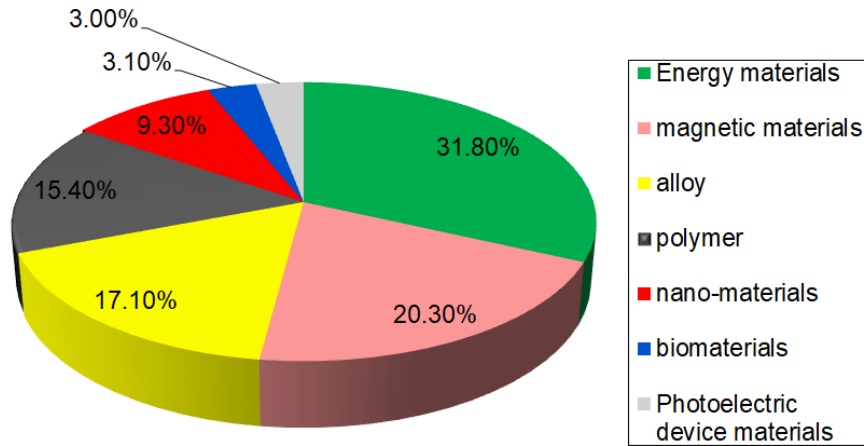
On Jun.4, 2020, the test of CSNS accelerator beam power 100KW was passed.

CSNS User Community



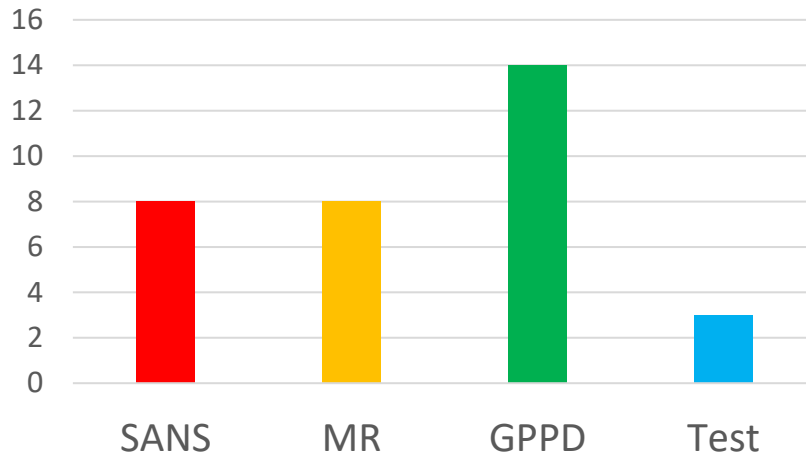
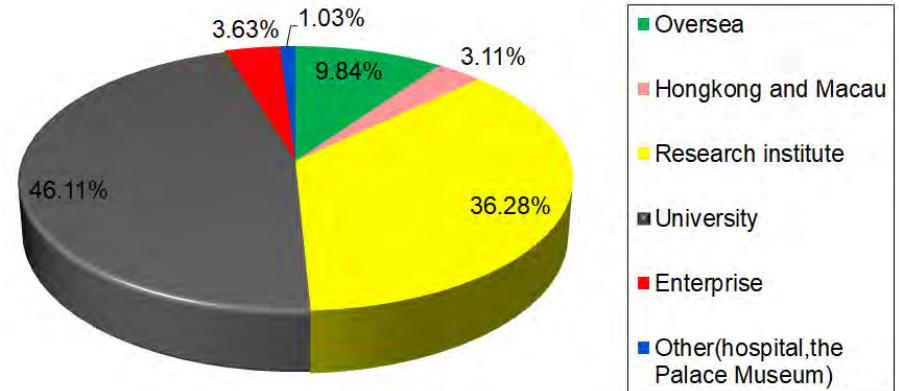
Distribution of user research fields

189 user experiments were completed



Distribution of user affiliations

More than 1200 users, from 193 universities, research institutes and enterprises, registered in the CSNS user service system



So far, more than 30 scientific publications by users, including Science, Nature Communication, Advanced Materials, Journal of the American Chemical Society, etc.

CSNS scientific achievements

Cite as: L. Liu *et al.*, *Science* 10.1126/science.aba9413 (2020).

Making ultrastrong steel tough by grain-boundary delamination

L. Liu^{1*}, Qin Yu^{2*}, Z. Wang¹, Jon Ell^{2,3}, M. X. Huang^{1†}, Robert O. Ritchie^{2,3†}

¹Department of Mechanical Engineering, The University of Hong Kong, Pokfulam Road, Hong Kong, China. ²Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, CA 94720, USA. ³Department of Materials Science and Engineering, University of California, Berkeley, CA 94720, USA.

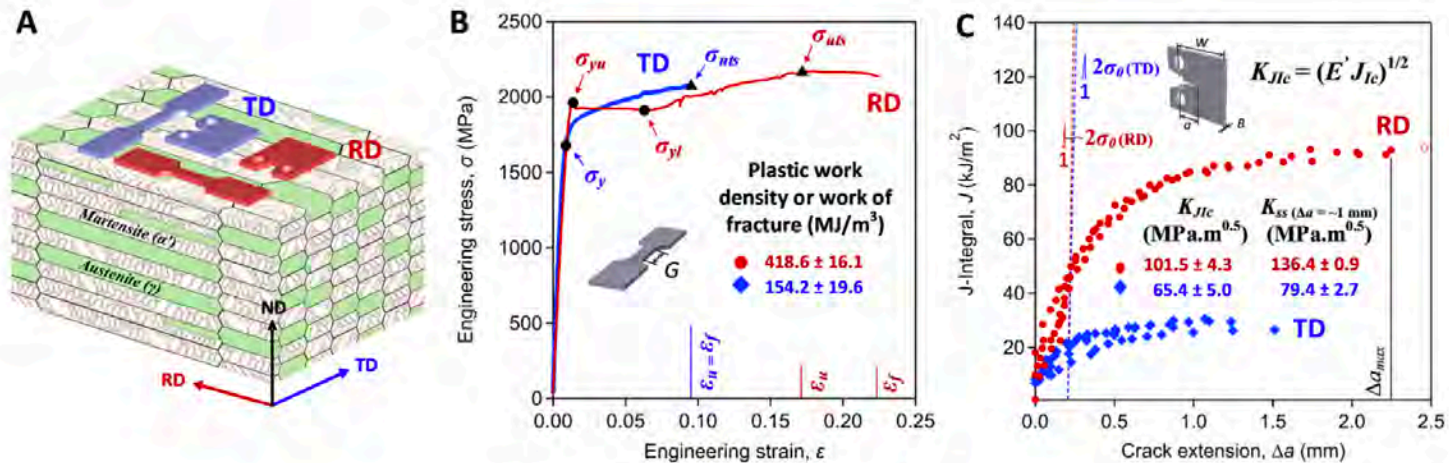
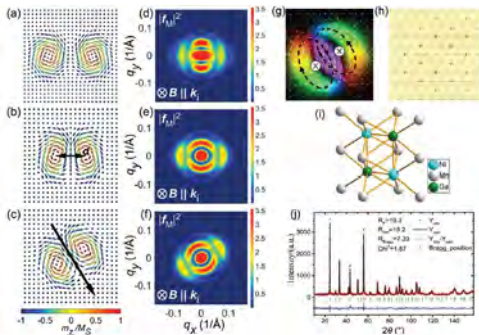


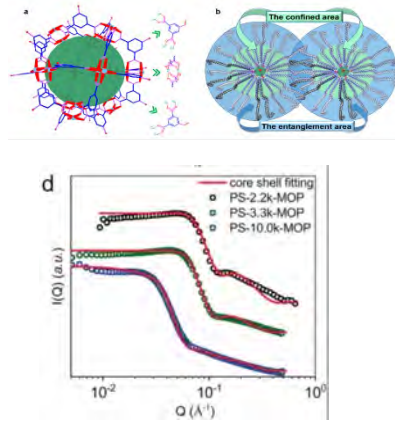
Fig. 2. Tensile and fracture properties of the present steel. (A) Schematic diagram describing the orientations of the dog-bone shaped tensile specimens and the compact-tension C(T) specimens relative to the thin-sheet steel. (B) Engineering stress-strain curves of the present steel deformed under tension along the RD and TD orientations. (C) The J -integral based resistance curves (J -R curves) measured from the C(T) specimens at room temperature.

CSNS scientific achievements

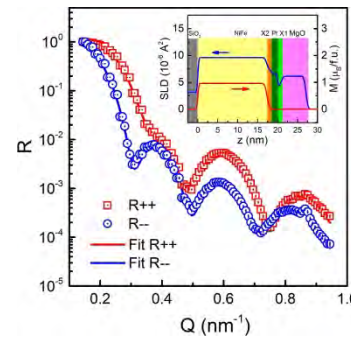
GPPD
Skyrmion
Adv. Mater



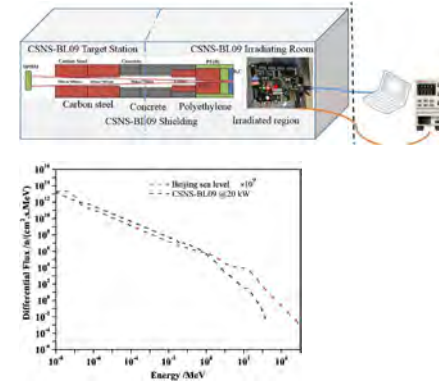
SANS
metal-organic polyhedron
Angew Chem



MR
NiFe/Pt Bilayers
J. Phys.: Condens. Matter



Test
Chip
Microelectronics Reliability



Energy Storage Materials
Volume 16, January 2019, Pages 354-363

Structural and mechanistic revelations on high capacity cation-disordered Li-rich oxides for rechargeable Li-ion batteries

Enyue Zhao^{a, b}, Lanhua He^{a, c}, Baofan Wang^{1, 5}, Xiyang Lu^{a, d}, Junrong Zhang^{1, 5}, Yang Yu^{1, 5}, Jie Chen^{1, 6}, Shaoping Zhang^{a, c}, Tianjiao Liang^{1, 5}, Yuanbo Chen^{1, 5}, Xipan Yu^{a, b, 3, 8}, Hong Lu^{a, b, 3, 8}, Liqun Chen^{a, b, 3}, Xuege Huang^{a, 6}, Hesheng Chen^{1, 5}, Fangqun Wang^{a, b, 1, 3, 8}

Communications
Angewandte Chemie International Edition

Stabilizing the Oxygen Lattice and Reversible Oxygen Redox Chemistry through Structural Dimensionality in Lithium-Rich Cathode Oxides

Enyue Zhao^a, Qianhui Li^a, Fang Meng^a, Jie Liu, Anxiong Wang, Lanhua He, Zheng Yang, Qianhui Zhang, Xijian Yu^a, Lin Gu^a, Wanchang Hong, Li, Fangqun Wang^a, and Xuege Huang

COMMUNICATION
Oriented 3D Magnetic Biskyrmion in MnNiGa Bulk Crystals

Xiyang Lu, Shibo Zhang, Hong Li, Dikko Akilo Waniyo, Jonathan S. Wills, Wilbert Dinkel, Qinghua Huang, Jie Chen, Lanhua He, Genli Sun, Jie Chen, Weidong Zhang, Thorstein Hagenlocher, and Fangqun Wang

Nano Energy
Full paper
Insight into the origin of lithium/nickel ions exchange in layered Li(Ni,Mn,Co)O₂ cathode materials

Yingso Xiao^a, Tongchao Liu^a, Jiajie Liu^a, Lanhua He^{a, b, c, d}, Jie Chen^a, Junrong Zhang^{a, b}, Ping Luo^a, Hualie Lu^a, Rui Wang^a, Weiming Zhu^a, Zongxiang Hu^a, Guofeng Teng^a, Chao Xia^a, Jinxin Zheng^a, Tianjiao Liang^a, Fangqun Wang^a, Yuanbo Chen^a, Qingzhen Huang^a, Feng Pan^a, Hesheng Chen^a

SCIENTIFIC REPORTS
OPEN
Probing the Transfer of the Exchange Bias Effect by Polarized Neutron Reflectometry

X. Z. Zhao^{a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z}, J. W. Cai^a, J. F. Cao^a, C. J. Kwon^{a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z}

- **Multiple Physics Instrument** by Dongguan Inst. of Technology, and CityU (HK) **will be completed by the end of 2020**
- **Engineering Diffractometer** by Center for Excellent Advanced Materials (Dongguan) **will be completed by the end of 2022**
- **High Pressure Diffractometer** by South China Univ. of Sciences and Technology **will be completed by the end of 2022**
- **High-resolution neutron powder diffractometer** by Peking University Shenzhen Graduate School. **under construction**
- **High energy chopper spectrometer** by SUN YAT-SEN Univ. **will be completed by the end of 2022**
- **Atmospheric Neutron Irradiation Spectrometer** by the Inst. of industry and information technology. **will be completed by the end of 2021**

All of them are built by CSNS (turn key).

Guangdong Province Government Donation:

- **Very small angle neutron scattering**
- **Energy resolved neutron imaging**

CSNS Phase II Instruments

01 小角中子散射仪
Small-Angle Neutron Scattering Instrument

02 多功能反射仪
Multi-purpose Reflectometer

03 液体中子反射仪
Liquid neutron reflectometer

04 冷中子直接几何非弹谱仪
Cold Neutron direct-geometry Inelastic Spectrometer

05 高能直接几何非弹谱仪
High Energy Direct Geometry Spectrometer

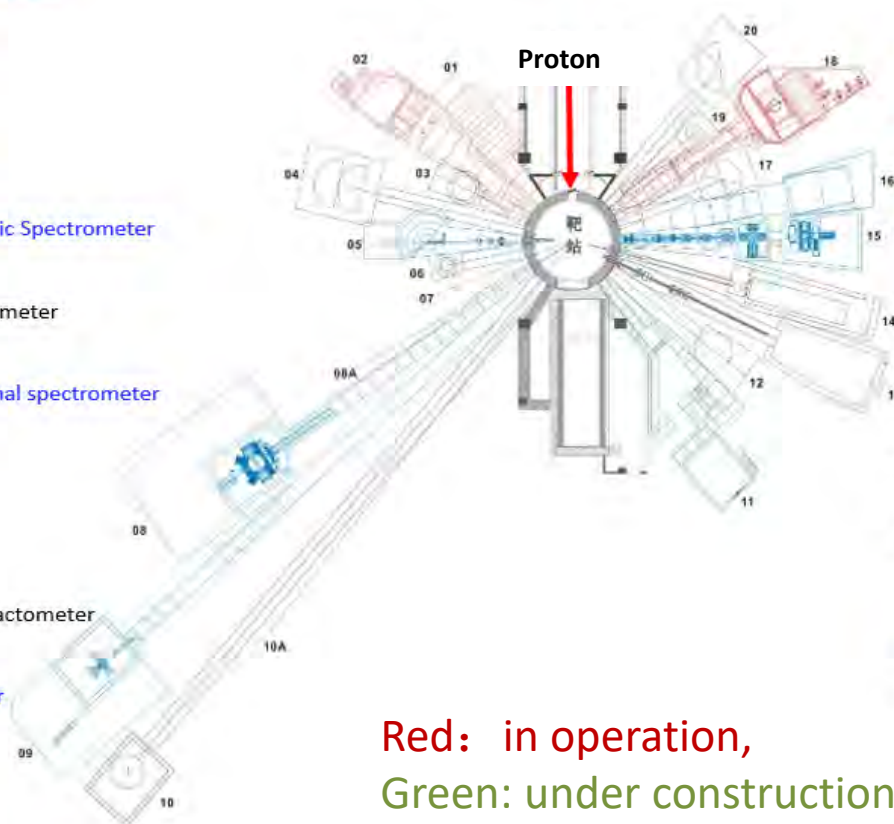
06 逆几何分子振动谱仪
indirect geometry molecular vibrational spectrometer

07 预留 Reserve

08 工程材料中子衍射仪
Engineering Material Diffractometer

09 高分辨中子衍射仪
high-resolution neutron powder diffractometer

10 中子背散射谱仪
Neutron BackScattering Spectrometer



20 直接几何极化非弹谱仪
Direct geometry polarization inelastic spectrometer

19 大分子单晶中子衍射仪
Macromolecular neutron diffractometer

18 通用粉末衍射仪
General purpose powder diffractometer

17 弹性漫散射中子谱仪
Elastic diffuse scattering

16 多物理谱仪
Multi-Physics Instrument

15 高压中子衍射仪
High Pressure Neutron Diffractometer

14 微小角中子散射仪
Very Small Angle Neutron Scattering Instrument

13 能量分辨成像谱仪
Energy-resolved neutron imaging instrument

12 中子物理与应用谱仪
Neutron Physics and Applications Spectrometer

11 大气中子辐照谱仪
Atmosphere Neutron Irradiation Spectrometer

Red: in operation,
Green: under construction,
Blue: Planned in CSNS II.

- The main parameter specifications of nine instruments of CSNS II have been determined, and two beam ports are reserved.
- The primary conceptual and physical design were completed, and entered the feasibility study stage.

CSNS Instruments and Future Plan

- The phase-I instruments: GPPD, MR, SANS
- The 8 user instruments: under construction

CSNS Phase II (14th 5 year plan from 2021)

- More neutron Instruments (9 instruments)
- More sample environment and user lab
- Beam power upgrade to 500kW
- Muon beams.....

Summary

- **3 facilities in China run well, and their performance are improving.**
- **User community expands quickly and the user demand is very strong.**
- **Many interesting scientific results obtained.**
- **More neutron instruments and sample environment are promoted. CSNS II proposed,**
- **Training users and cultivate young talents in neutron scattering research and technology development is key issue.**
- **Thanks the help and supports from intl. NS community**
- **Welcome intl. users and cooperation in the neutron scattering and applications.**

**Look Forward for More
International Cooperation !**



DEPARTMENT OF PHYSICS AND MATERIALS SCIENCE

WTT*

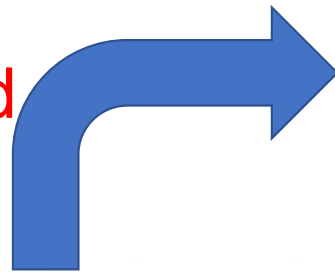


For more information, please visit the website at <http://www.inss.or.id> and <http://www.aonssa.org>

PROF.DR. EVVY KARTINI
PRESIDENT



<http://inss.batan.go.id>



Member of the Regional Society
2015

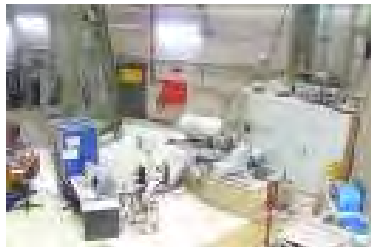


About AONSA

The Asia-Oceania Neutron Scattering Association is an affiliation of neutron scattering societies and committees directly representing users in the Asia-Oceania Region.

INTEGRATED NUCLEAR LABORATORY

NEUTRON SCATTERING LABORATORY



ACTIVITES

2014



13-17 October 2014

2015



SERPONG, March 2015

Badan Tenaga Nuklir Nasional

2015



SERPONG, 6-7 OCTOBER 2015



6/21/2020



EC AONSA Meeting, ISSP, Japan (2015)

INDONESIA BECOMES A MEMBER OF AONSA



This is to certify that

*The Indonesian Neutron
Scattering Society*

is a regular member of AONSA since January 1, 2016.

March 29, 2017

Sung-Min Choi
President of AONSA

AFTER SEVERAL YEARS BECOMING AN OBSERVER,
FINALLY ON the 15th AONSA Executive Committee
Meeting, IN JAPAN 2-6 DECEMBER 2016

IT WAS DECLARED THAT :

- INDONESIA HAS BECOME A MEMBER OF ASIA OCEANIA NEUTRON SCATTERING SOCIETY (AONSA)
- OFFICIALLY STARTING 2016
- INDONESIA WAS ASKED TO BECOME EXECUTIVE COMMITTEE (MEMBER AT LARGE), REPRESENTED BY PROF.DR.EVY KARTINI AND PROF.DR.DARMINTO
- Annual Membership Fee \$2000



INSS ROAD MAP



2015
INSS
Member
of AONSA

2016
Involve
more in
AONSA
activities



2017
Promoting
INSS
activities

2018
International
activities &
workshop at
ICA Bali



2019
ICAMT-ICMR
Workshop
ASTON, Sentul

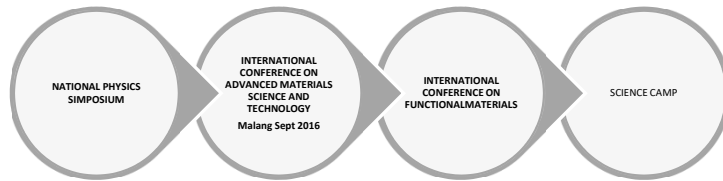
2020
EC-FDM AONSA
Indonesia
Neutron
Workshop



Fig.4. Enjoying the Sunset, Dinner and Ramayana Ballet Prambanan Temple



PROMOTING NEUTRON SCIENCE



Neutron
Workshop &
Couching





Neutron Worskhop (Inelastic, Radiography, Instrument)

Visiting Scientist Prof.F.Mezei, ESS



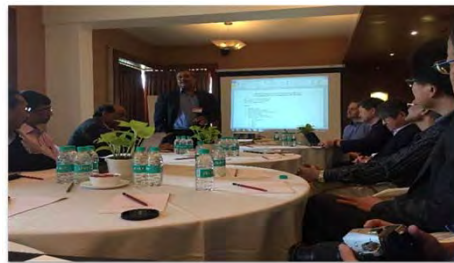
The 16th & 17th AONSA Executive Committee Meeting 2016

16th EC-FD
Meeting



Dongguan City, China, on May 31, 2016

17th EC-FD
Meeting



Mumbai, Nov 15-18, 2016

9th AONSA
Neutron School



BARC, Mumbai, India (5 Indonesian Students attended the AONSA School)

PROMOTING NEUTRON SCATTERING

University VISITs
NEUTRON
LABORATORY

ADVANCED
CHARACTERIZATION
AT BATAN

DISSEMINATIONS to
Binus High School



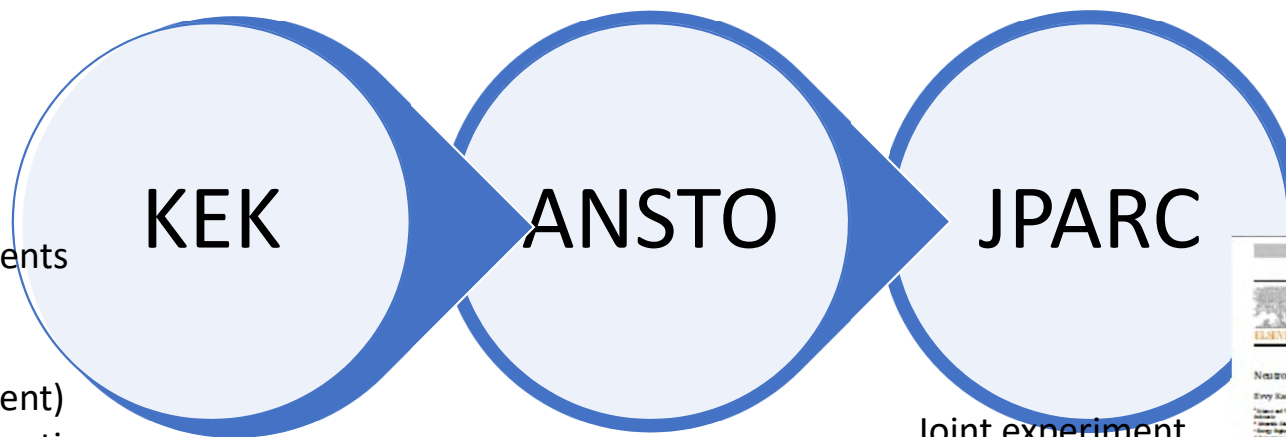
University Lambungmangkurat



University Indonesia



INTERNATIONAL COOPERATION 2017-

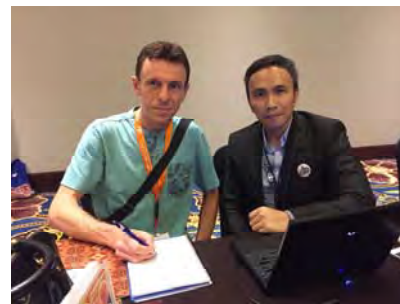


Exchange students
And scientist

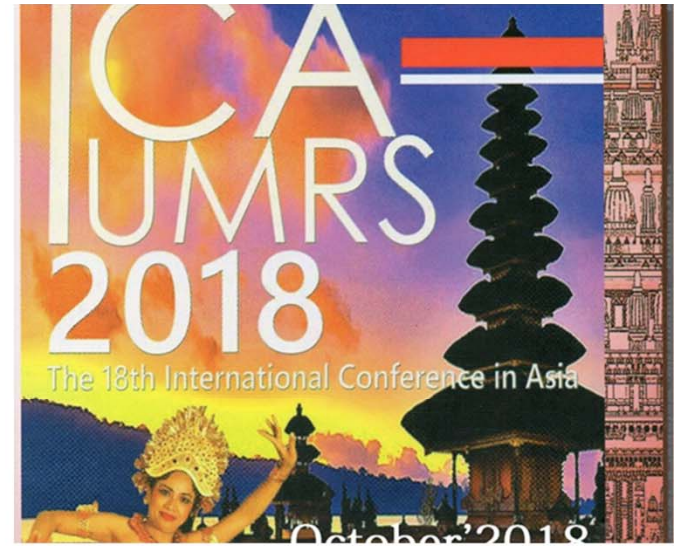
Ayu (PhD Student)
Teguh PhD, scientis

Joint Proposal, Joint experiment,
Australian-Asia Research Grant

Joint experiment
Renew collaboration









Neutron & X-ray Workshop, Udayana University, Bali

Capacity building

Cultural Dance at the Banquet

Young Scientist Award







**MoU between MRS-INA &
ANU-Australia
QMUL, UK
B4T, Kemenperin
IMMI, Inalum
MTM, ITB**



**Dr. Alexey Gushnov (ANU)
Andika Pandu (ITB)**



**Prof. Dr. Alan Drew (QMUL, UK)
Ir. Ratih (MMID, Inalum)
Ir. Budi Susanto (B4T, Kemenperin)**



1st International Workshop on Lithium-Ion Battery Technology

From Materials to Fabrication & Production for Making Indonesia 4.0
Launching of "National-Battery Research Institute"
by Indonesian Battery Consortium

October 8-9, 2019 in Sentul, Bogor

Lectures on battery principle and application & Practicum of batteries preparation and testing

REGISTER AND JOIN US!

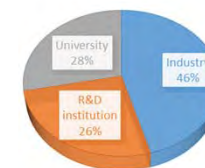
Participation fee :
IDR 1,000,000 /person
from R & D institution/university
IDR 2,000,000 / person
from Industry

Contact Person : Dr. Sudaryanto M.Eng
E-mail to : ws@mrs-ina.org or WA to : 081287720742

<http://mrs-ina.org/icamt-icmr2019>



1st Int'l Workshop on LIB Technology Participants



55% industries

International Workshop on Lithium Ion Battery, Aston, Sentul, 8-9 October 2020

PLAN ACTIVITIES 2020

- HOLD THE EC-FDM AONSA MEETING IN INDONESIA 2020
- INTERNATIONAL WORKSHOP ON MATERIAL CHARACTERIZATION
- NEUTRON USER MEETING

(POSTPONED DUE TO COVID 19)



Report from Neutron Scattering Society of India (NSSI)

NSSI Managing Committee Decided:

To hold one or two special lectures annually on neutron scattering under NSSI banner.

Eminent scientists from India or abroad will be invited to deliver these lectures.

The lecture series is proposed to be named as “NSSI Lecture on Neutron Scattering”

To organize a Neutron School,
“Neutron as Probes of Condensed Matter”

(XIX in the series), Venue: BARC, Mumbai
in 2020-21

Bid to Host 4th Asia-
Oceania Conference on
Neutron Scattering (4th
AOCNS) at India in 2023

Necessary approval from
Bhabha Atomic Research Centre,
Mumbai has been obtained to bid for
hosting the 4th AOCNS at India in 2023



The Japanese Society for Neutron Science
日本中性子科学会

Report from Japanese Society for Neutron Science

K. Kakurai

CROSS

Current Status of JSNS and Events

Membership (1 April 2020)

548 members (including 29 students)

In addition 31 Senior members (Total of 579)

32 supporting members

Events from the last EC meeting

The JSNS General Assembly and Prize Lecture during the AOCNS2019 (21 November 2019)

Election of council members (Dec 2019)

Meeting of the Working Group on Neutron Facilities Coordination (30 March 2020)

chaired by Prof. Kiyanagi, former President of JSNS

(in planning)

The 1st Meeting of the Neutron Science Promotion Committee (TBD)

Workshop entitled 'Discussion on the Future Vision for Neutron Science' (TBD)

The 5th Neutron and Muon School (November 2020)

The 20th Annual Meeting of the Japanese Society for Neutron Science

9-11 November 2020 , Sendai, IMR and IMRAM, Tohoku University

Joint Session with Society of Muon and Meson Science of Japan (JMMS)

JRR-3 Symposium

Current Status of JSNS and Events

Membership (1 April 2020)

548 members (including 29 students)

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The 1st Meeting of the Neutron Science Promotion Committee (TBD)

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The 5th Neutron and Muon School (November 2020)

The 20th Annual Meeting of the Japanese Society for Neutron Science

9-11 November 2020 , Sendai, IMR and IMRAM, Tohoku University

Joint Session with Society of Muon and Meson Science of Japan (JMMS)

JRR-3 Symposium

3rd Asian Oceanian Conference on Neutron Scattering AOCNS 2019 16-21 Nov. 2019 Taiwan

Saturday 11/16		Sunday 11/17		Monday 11/18		Tuesday 11/19		Wednesday 11/20		Thursday 11/21	
8:30-9:00		Registration		Plenary Lecture 3 Mitsuhiro Shibayama		Plenary Lecture 5 Wen-Hsien Li		Plenary Lecture 6 Anna Paradowska		8:30-9:00	
9:00-9:30		AOCNS OPENING								9:00-9:30	
9:30-10:00		Plenary Lecture 1 Jeffrey Lynn		Plenary Lecture 4 Xunli Wang		NSF1 ANSTO		Coffee		9:30-10:00	
10:00-10:30						NSF2 JAPAN		JSNS AWARD TALKS S8-1 Yojiro Oba S8-2 Bing Li S8-3 Kazuhiro Nawa S8-4 Hiroyuki Takahashi		10:00-10:30	
10:30-11:00		Plenary Lecture 2 Paul Attfield		Coffee		Coffee				10:30-11:00	
11:00-11:30		Coffee		Three Presidents Meeting AONSA 1		NSF3 ILL		Luch		11:00-11:30	
11:30-12:00		Coffee				NSF4 HANARO				11:30-12:00	
12:00-12:30		Coffee				NSF5		Luch JSNS GENERAL		12:00-12:30	
12:30-13:00		Coffee				Lunch				12:30-13:00	
13:00-13:30		Lunch		Lunch		Lunch		AONSA PRIZE AOCNS CLOSING		13:00-13:30	
13:30-14:00		Lunch		Lunch		Lunch				13:30-14:00	
14:00-14:30	Instrument Scientist Workshop TWNS W1 W2 W3 W4 W5	Lunch		Lunch		Lunch		Heading Back to Kaohsiung HSR Zuoying Station KHH Airport		14:00-14:30	
14:30-15:00		Lunch		Lunch		Lunch				14:30-15:00	
15:00-15:30		Coffee		Coffee		Coffee				15:00-15:30	
15:30-18:00		Coffee		Coffee		Coffee				15:30-18:00	
16:00-16:30		Beer and Poster Session 1		Beer and Poster Session 2		SOCIAL EVENT & BANQUET				16:00-16:30	
16:30-17:00		Beer and Poster Session 1		Beer and Poster Session 2		SOCIAL EVENT & BANQUET				16:30-17:00	
17:00-17:30		Beer and Poster Session 1		Beer and Poster Session 2		SOCIAL EVENT & BANQUET				17:00-17:30	
17:30-18:00		Beer and Poster Session 1		Beer and Poster Session 2		SOCIAL EVENT & BANQUET				17:30-18:00	
18:00-18:30		Beer and Poster Session 1		Beer and Poster Session 2		SOCIAL EVENT & BANQUET				18:00-18:30	
18:30-19:00	Reception	Beer and Poster Session 1		Beer and Poster Session 2		SOCIAL EVENT & BANQUET				18:30-19:00	
Saturday 11/16		Sunday 11/17		Monday 11/18		Tuesday 11/19		Wednesday 11/20		Thursday 11/21	

JSNS Awards

The JSNS Outstanding Achievement Prize

Masatoshi Arai
European Spallation Source ERIC (ESS)

'Pioneering research and development of the pulse neutron science and technology'



The JSNS Technology Prize

Hiroyuki Takahashi ¹⁾ and Takeshi Fujiwara ²⁾

¹⁾Institute of Engineering Innovation, School of Engineering, The University of Tokyo

²⁾National Institute of Advanced Industrial Science and Technology (AIST)

'Development of the neutron flat-panel detector'



JSNS Awards

The JSNS Young Researcher Prizes

Yojiro Oba

Materials Sciences Research Center, Japan Atomic Energy Agency (JAEA)

'Microstructural characterization in steel using small-angle neutron scattering'



Kazuhiro Nawa

Institute of Multidisciplinary Research for Advanced Materials (IMRAM),
Tohoku University

'Investigations on low-dimensional and frustrated magnets'



Bing Li

Shenyang National Laboratory for Materials Science, Institute of Metal
Research, Chinese Academy of Sciences

'Research on dynamics of functional materials using quasi-elastic and inelastic neutron scattering'



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32 supporting members

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Meeting of the Working Group on Neutron Facilities Coordination (30 March 2020)

chaired by Prof. Kiyanagi, former President of JSNS

(in planning)

The 1st Meeting of the Neutron Science Promotion Committee (TBD)

Workshop entitled 'Discussion on the Future Vision for Neutron Science' (TBD)

The 5th Neutron and Muon School (November 2020)

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9-11 November 2020 , Sendai, IMR and IMRAM, Tohoku University

Joint Session with Society of Muon and Meson Science of Japan (JMMS)

JRR-3 Symposium

2020 Board of JSNS (Apr. 2020- Mar. 2021)

President: Kazuhisa Kakurai (CROSS)

Members of Council (16)

2019-2020 fiscal year

Hitoshi Endo (KEK)

Masaaki Fujita (Tohoku Univ.)

Hazuki Furukawa (Ochanomizu Univ.)

Michiro Furusaka (AIST)

Hiromichi Kishimoto (Sumitomo Rubber Ind.)

Kenji Ohyama (Ibaraki Univ.)

Hirohiko Shimizu (Nagoya Univ.)

Masayasu Takeda (JAEA)

Green color: Industry

Red color: Lady

2020-2021 fiscal year

Masahiro Hino (Kyoto Univ.)

Yoshiaki Kiyonagi (Nagoya Univ.)

Kenji Nakajima (J-PARC)

Yoshie Ohtake (RIKEN)

Taku Sato (Tohoku Univ.)

Hideki Seto (KEK)

Masaaki Sugiyama (Kyoto Univ.)

Naoya Torikai (Mie Univ.)

Board of Administration

Secretary

Seiko Kawamura (J-PARC)

Taro Nakajima (Univ. Tokyo)

Events Coordination

Ryoji Kiyonagi (J-PARC)

Go Matsuba (Yamagata Univ.)

Toshiyuki Chatake (Kyoto Univ.)

Public-Relations

Nobuhiro Sato (Kyoto Univ.)

Xiang Li (Univ. Tokyo)

Treasurer

Kazutaka Ikeda (KEK)

Yohei Onodera (Kyoto Univ.)

Communication

Yusuke Nambu (Tohoku Univ.)

Daisuke Okuyama (Tohoku Univ.)

Publication

Taturo Oda (Kyoto Univ.)

Kazuya Kamazawa (CROSS)

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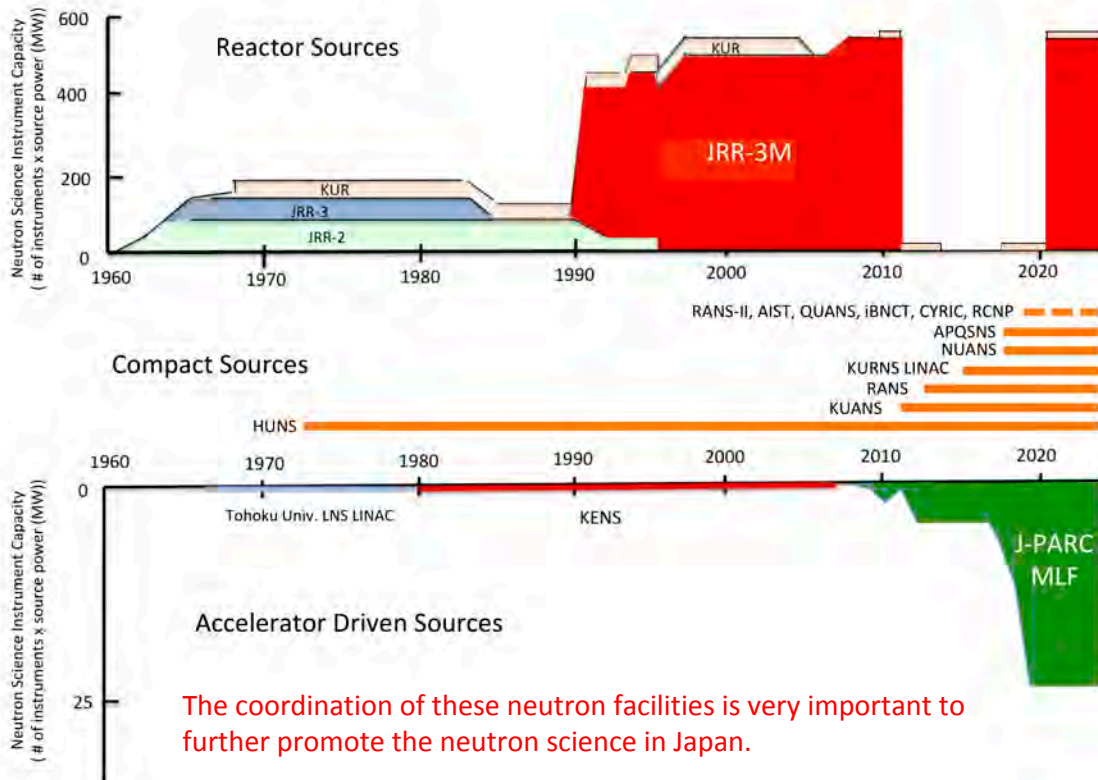
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JRR-3 Symposium

Neutron Science Instruments Capacity in Japan



The coordination of these neutron facilities is very important to further promote the neutron science in Japan.

The foundation of Neutron Facilities Coordination Program is proposed to be included in the 'Roadmap for the Promotion of Large Scale Project' by MEXT(Ministry for Education, Culture, Sports, Science & Technology – Japan)⁰

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Neutron Science Promotion Committee

Following the approval in the JSNS General Assembly Meeting at AOCNS2019, the Neutron Science Promotion Committee (NSPC) has been established with Prof. T. Arima as chair person. The NSPC has an advisory role to the president of JSNS.

Members

Chair: Taka-hisa Arima (Univ. of Tokyo & RIKEN)

Multiferroic materials, Synchrotron

Masaki Fujita (IMR, Tohoku University)

Solid state physics, Neutron scattering

Takanori Fukushima (TIT)

Chemical science

Masahiro Hino (Kyoto University)

Neutron devices, Fundamental physics

Hiroyuki Kagi (Univ. of Tokyo)

Earth science, High pressure,

Yoshie Ohtake (RIKEN)

Compact neutron source

Toshiya Otomo (KEK)

Hydrogen, Neutron scattering

Toshiyuki Shimizu (Univ. of Tokyo)

Protein structural biology, CryoEM

Jun-ichi Suzuki (CROSS)

Solid state physics, SANS

Yasunori Tabira (MITSUI MINING & SMELTING CO.,LTD)

Materials analysis, Industrial application

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JRR-3 Symposium

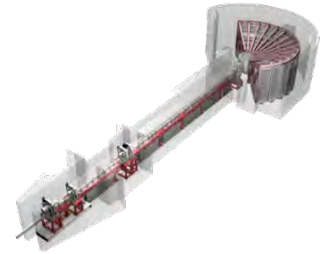
AONSA YRF at J-PARC

□ Dr. Chi-Hung Lee (National Central University)



Dr. Chi-Hung Lee

- ✓ Dr. Chi-Hung Lee assigned to AMATERAS/J-PARC as a fellow of 2019 AONSA Young Research Fellowship program.
- ✓ He visited J-PARC from February 3rd, 2020 and originally planned to stay until April 30th, 2020 to carry out inelastic experiment on spin excitations in multiferroic materials by using his own beam time (general proposal #2019B0167) and extra beam time provided by AMATERAS team.



- ✓ Due to COVID-19 problem became serious in Japan, he terminated his stay on February 26th, 2020. We informed AONSA EC members and got approval.
- ✓ AMATERAS team carried out test experiment on his sample as a remote experiment for 5 days.
- ✓ Still he has right to carry out his experiment (#2019B0167) and JAEA can support his stay.
- ✓ He is now looking for job. So, it is uncertain whether he can come or not after COVID-19 pandemic.

COVID-19 related measure

Since there are many students impacted by the coronavirus outbreak in Japan, the JSNS has decided to waive the FY2020 membership fee for students.

Report from the Korean Neutron Beam Users Association

The 24th AONSA EC meeting
Online via ZOOM
2020/06/20



(<http://www.neutron.or.kr>)

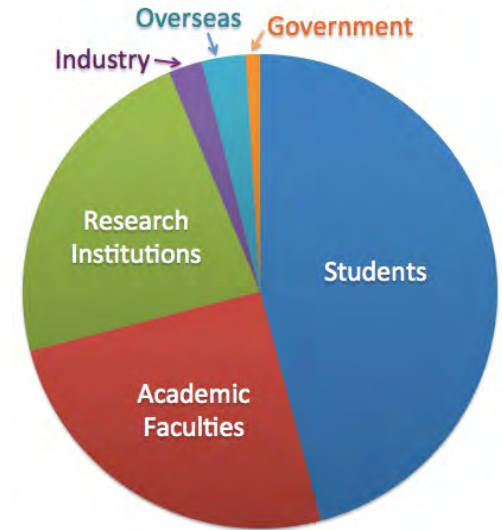
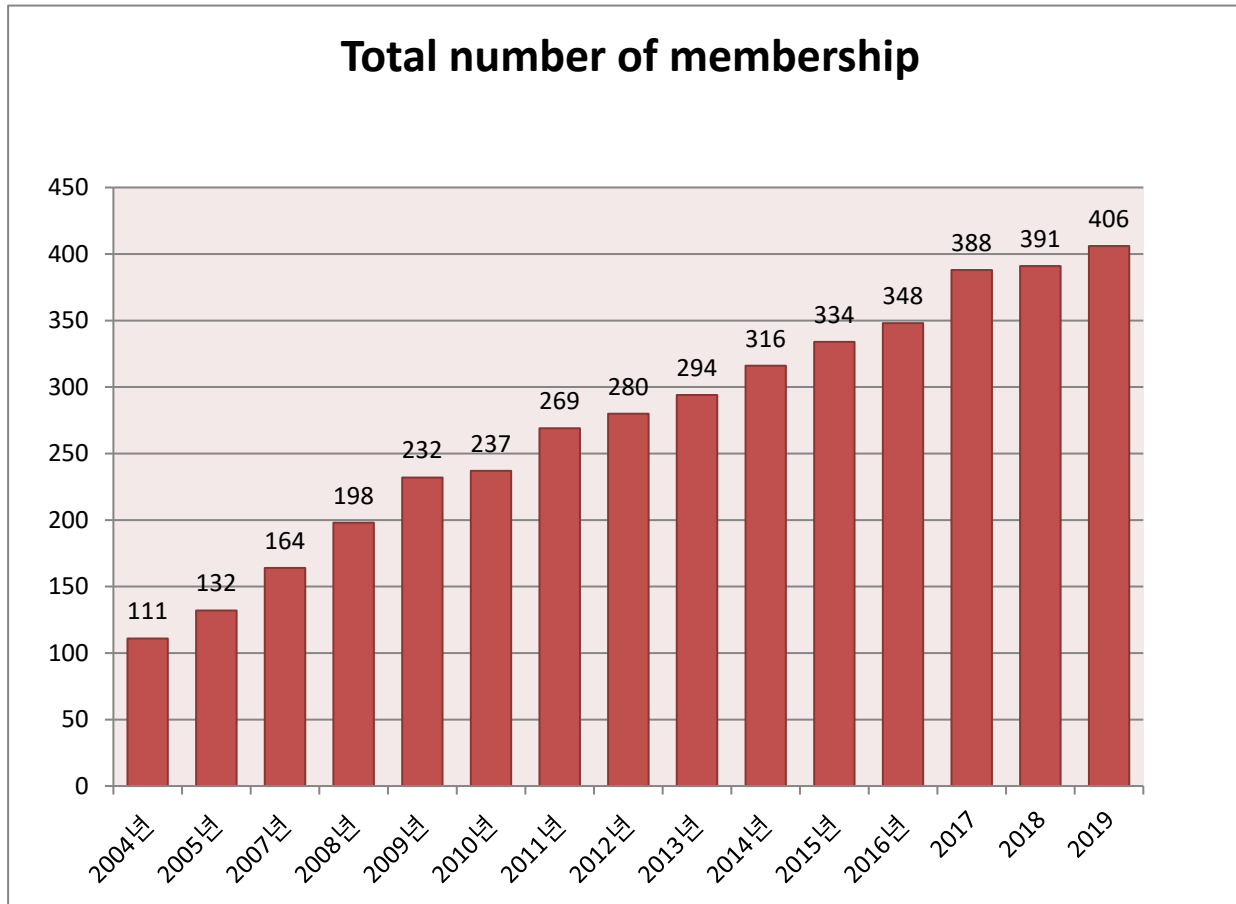
Soo-Hyung Choi (Hongik Univ.)
Jae- Ho Chung (Korea Univ.)

KNBUA: Current Status

◆ Total number of membership: 406 (as of 2019)

□ Professionals: 181

□ Students: 225



Korean Neutron Beam Users Association

◆ KNBUA executive committee meeting (2019. 11.07)

- ❑ President: Jae-Ho Chung (Korea U)
- ❑ Secretary: Soo-Hyung Choi (Hongik U)
- ❑ Editing managers: M.C. Choi (KAIST), S.Y. Kim (UNIST)
- ❑ Financial manager: S.Y. Lee (ChungNam U)
- ❑ Academic managers: J.S. Ku (ChungNam U) / J.H. Kim (Samsung)
- ❑ International relation manager: Sungkyun Park (Pusan NU)
- ❑ HANARO representative: Sungil Park (KAERI)

❑ Auditor:
Kwanwoo Shin (Segang U)

◆ KNBUA General Assembly of 2020

- ❑ To be scheduled in July



Research Grant to support neutron research

◆ Center for Materials Research using Neutron Beams

- ❑ Supported by the NSF of Korea by the Grant to Support Researches Using Large Overseas Research Facilities.
- ❑ Period: 2020/06/17 – 2022/12/31
- ❑ Fund: approximately USD 165,000 x three years
 - ❖ Neutron beamtime experiments (partly synchrotron and muon)
 - ❖ Neutron schools and workshops
 - ❖ Can support students from non-participating research groups
- ❑ Primary Investigator: Jae-Ho Chung (Korea University)
- ❑ Regular Participants: Sungkyun Park (Pusan NU), Soo-Hyung Choi (Hongik U), Tae-Hwan Kim (Cheonbuk NU), Su-Yeol Lee (Chungnam NU), Eun-Soo Park (Seoul NU), Seungwook Lee (Pusan NU), Hyeon-Cheol Oh (Kyeongnam STU), Minyoung Yoon (Kyeongbuk NU)
- ❑ Renewal of “Center for Materials Research using Neutron Beam Facilities” 2017/04/07 – 2019/12/31



23rd AONSA EC meeting (via Zoom):

TWNSS Activity Report

**Presented by Prof. Hsiung Chou
Prof. C. C. Yang**

Prepared by Ko-Wei Lin, TWNSS President
Chair, IEEE Magnetics Society Taiwan Chapter
Chair, MSE Dept., NCHU, Taichung, Taiwan

June 20, 2020

(1) TWNSS 2019 annual meeting Nov. 16, 2019 (in conjunction with AOCNS 2019)



Plenary speaker: Prof. Mitsuhiro Shibayama, University of Tokyo



The status and overview of the society's activities during 2019, such as:

- (1) two **committee meetings** held (February in Kenting and October in Taichung) for the preparation of AOCNS 2019,
- (2) **TWNSS newsletter** (vol. 6, no. 2) was released in August, 2019 (Editor Prof. E-Wen Huang),
- (3) members' participation into **NSRRC's annual user meeting** in September, and
- (4) congratulating **Dr. Chih-Hung Lee**, the recipient of **2019 AONSA Young research Fellow**.

(2) AOCNS 2019 held in Taiwan

Conference Chair: Prof. Hsiung Chou



- More than **313** people attended.
- Submitted Abstracts more than **300**.



Taiwan's Plenary speaker: Prof. Wen-Hsien Li



See you in 2023 for **4th AOCNS!**

	Saturday 11/16	Sunday 11/17	Monday 11/18	Tuesday 11/19	Wednesday 11/20	Thursday 11/21		
8:30-9:00		Registration	Plenary Lecture 3 Mitsuhiro Shibayama	Plenary Lecture 5 Wen-Hsien Li	Plenary Lecture 6 Anna Paradowska	CONFERENCE TOUR(FREE)	8:30-9:00	
9:00-9:30		AOCNS OPENING					9:00-9:30	
9:30-10:00		Plenary Lecture 1 Jeffrey Lynn	Plenary Lecture 4 Xunli Wang	NSF1 ANSTO	Coffee		9:30-10:00	
10:00-10:30				NSF2 JAPAN	JSNS AWARD TALKS S8-1 Masatoshi Arai S8-2 Takahashi & Fujiwara S8-3 Yojiro Oba S8-4 Kazuhiro Nawa S8-5 Bing Li		10:00-10:30	
10:30-11:00		Plenary Lecture 2 Paul Attfield	Coffee	Coffee			10:30-11:00	
11:00-11:30			Three Presidents Meeting	NSF3 ILL			11:00-11:30	
11:30-12:00		Coffee		NSF4 HANARO			11:30-12:00	
12:00-12:30				NSF5	Luch		JSNS GENERAL	12:00-12:30
12:30-13:00								12:30-13:00
13:00-13:30				Lunch			13:00-13:30	
13:30-14:00					AONSA PRIZE	13:30-14:00		
14:00-14:30	Instrument Scientist Workshop T W N S S W1 W2 W3 W4 W5		AONSA EC			14:00-14:30		
14:30-15:00							14:30-15:00	
15:00-15:30								15:00-15:30
15:30-16:00								15:30-16:00
16:00-16:30								16:00-16:30
16:30-17:00						16:30-17:00		
17:00-17:30						17:00-17:30		
17:30-18:00						17:30-18:00		
18:00-18:30		Beer and Poster Session 1	Beer and Poster Session 2			18:00-18:30		
18:30-19:00	Reception					18:30-19:00		
	Saturday 11/16	Sunday 11/17	Monday 11/18	Tuesday 11/19	Wednesday 11/20	Thursday 11/21		



Photo-3: The group photo of EC meeting at the Kenting Conference site and at the Beijing and Dongguan sites.

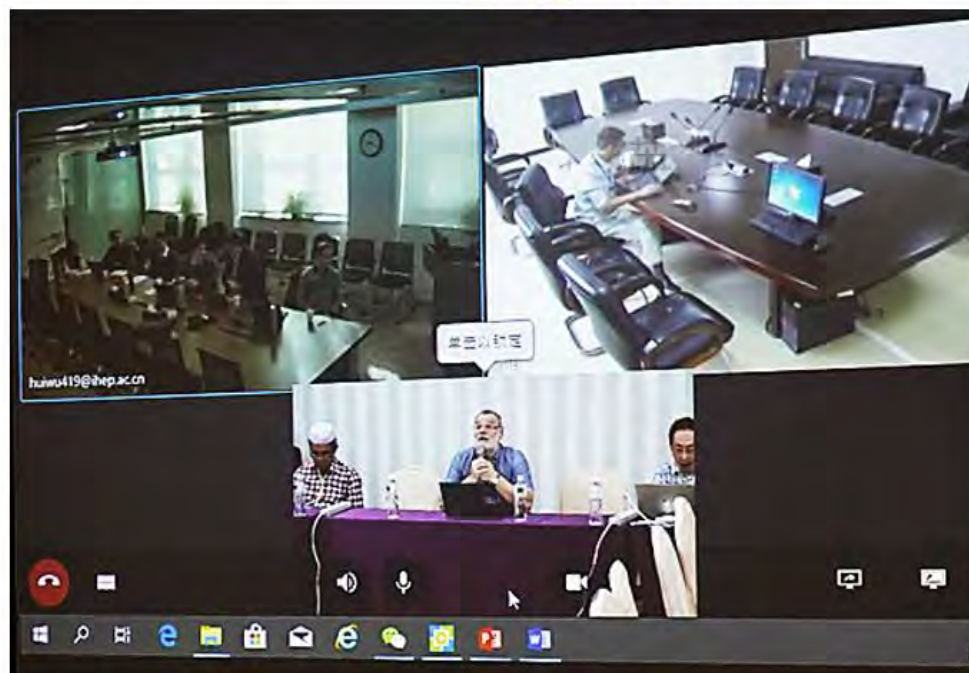
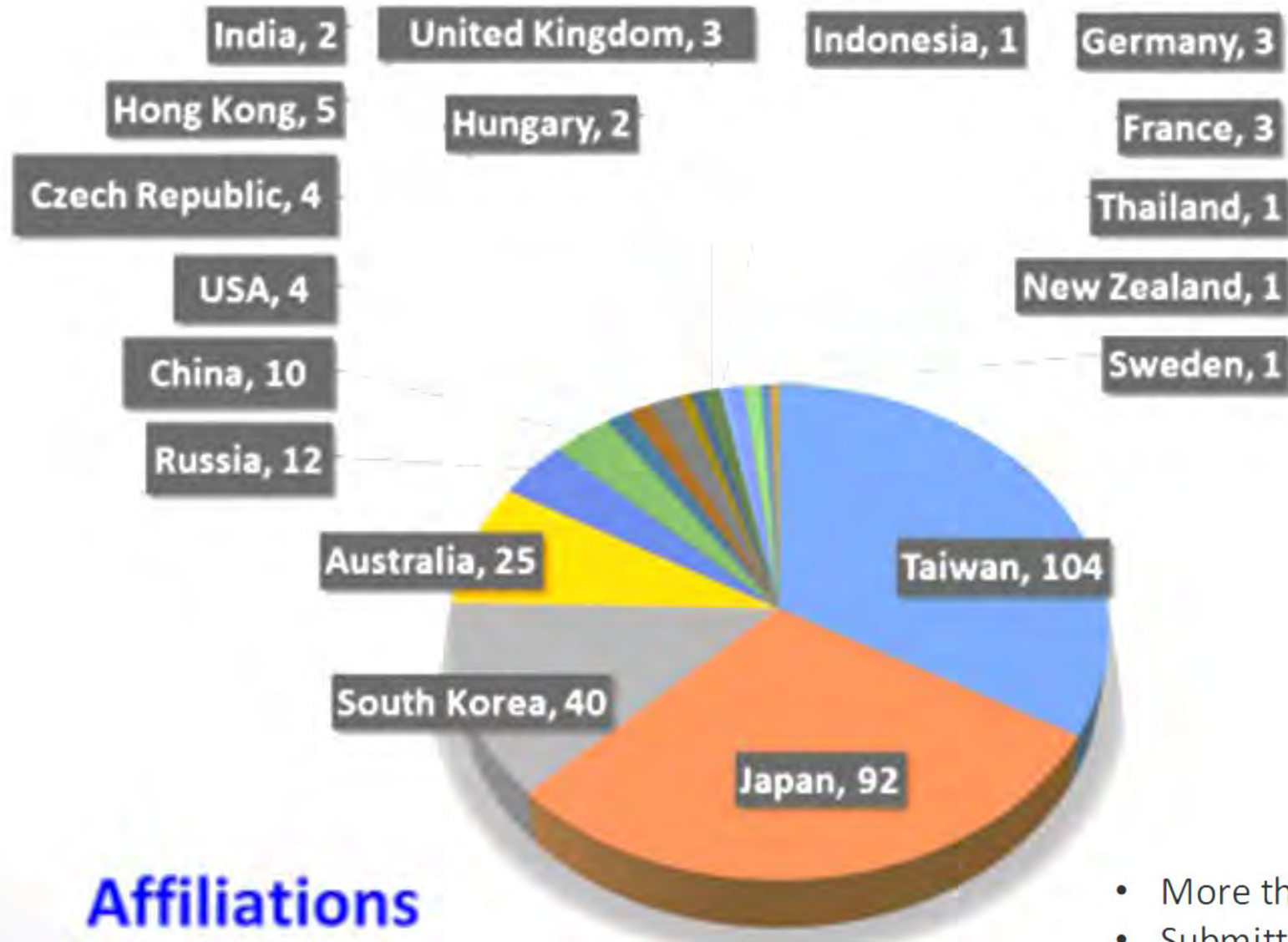


Photo-4: The web-conference connecting people from different sites in real time could be the future trend for gathering more delegates from various sites to exchange idea and joint discussions.





Affiliations

- More than **313** people attended.
- Submitted Abstracts more than **300**.

(3) TWNSS 2020 activities and plans



(i) Committee meeting, Jan. 17, 2020. (ii) Triple axis **SIKA training workshop**, NSRRC, Jan. 8-10, 2020.



- (iii) Journal: **Quantum Beam Science** Special issue of AOCNS 2019 (**Editor: Prof. E-Wen Huang**):
Asia-Oceania Neutron and Advanced Photon Source for Industrial Applications.
- (iv) **TWNSS annual meeting**: National Chung Hsing University (tentative), Oct. 23-25, 2020 (**Prof. Che-Yi Chu**).
- (v) **Elsevier Solid State Physics vol. 71** Roadmap (book chapter "**Studying low Z-elements and magnetism in solid-state systems using polarized neutron reflectometry**") by S. Callori, D. Cortie, T. Saerbeck, K.-W. Lin (Nov. 2020).
- (v) **Japan-Taiwan joint meeting** on neutron and X-ray scattering: Japan, Nov. 30-Dec. 3, 2020 (**Chair: Prof. Ya-Sen Sun**).



Thank you very much!



Thailand Country Report

19th Facility Directors' Meeting
24th AONSA EC Meeting

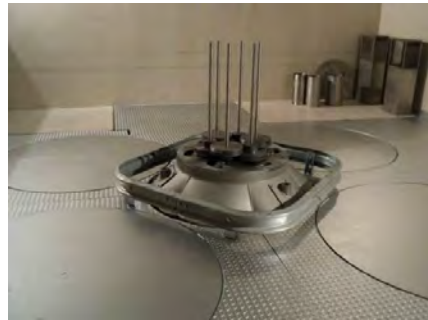
Apichate Maneewong
Nuclear scientist
Irradiation Center, TINT



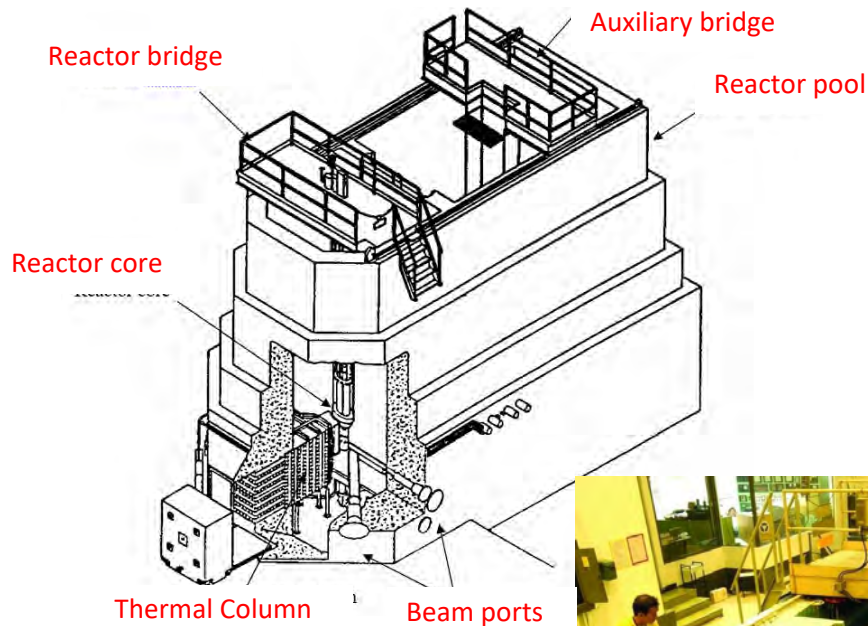
About Thailand Institute of Nuclear Technology (TINT)



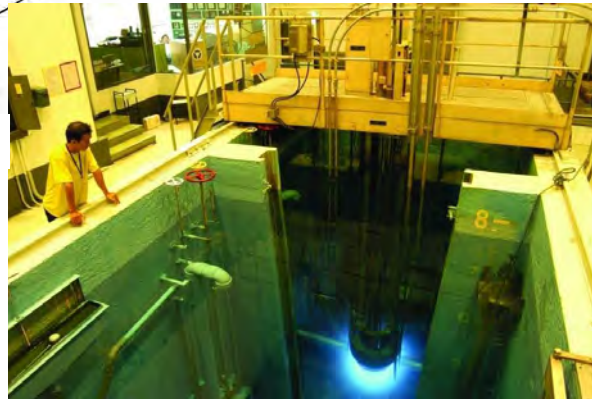
- TINT is a public organization under the supervision of Ministry of Higher Education, Science, Research and Innovation (MHESI).
- TINT carry out the research and development on nuclear science and technology for sustainable development of the country



Beam facilities at Thai research reactor (TRR1/M1)



- ✓ Neutron activation analysis (NAA)
- ✓ Neutron Radiography (NR)
- ✓ Prompt Gamma Neutron activation analysis (PGNAA)
- ✓ Radioisotope Production
- ✓ Gems Irradiation
- ✓ Material Testing
- ✓ Plant Mutation





Prompt Gamma Neutron Activation Analysis (PGNAA)

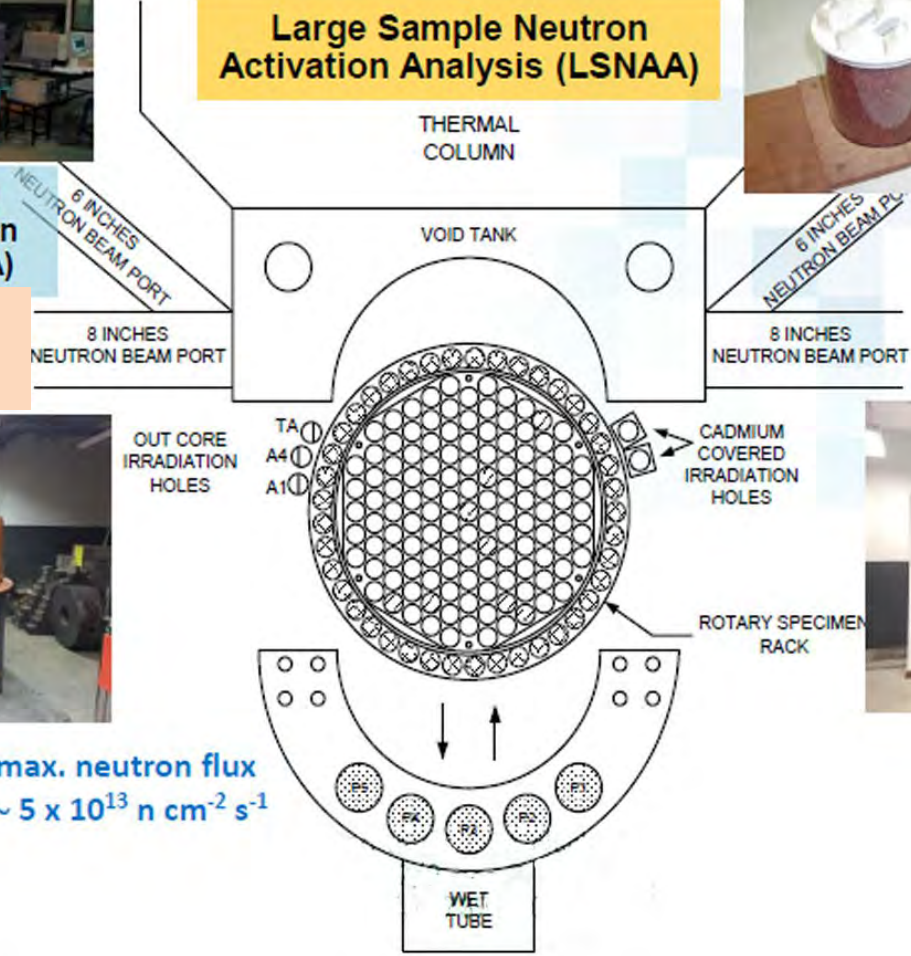
Large Sample Neutron Activation Analysis (LSNAA)



1.5 kg (Jasmine rice)

Neutron Radiography

Neutron Diffraction (Decommissioned)

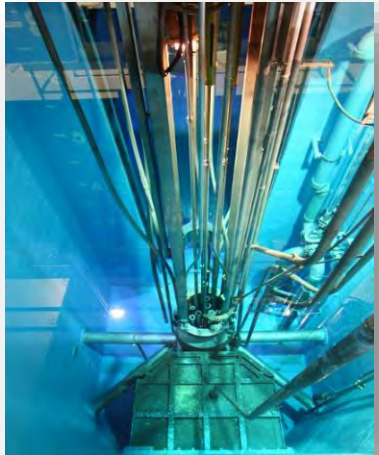


max. neutron flux
 $\sim 5 \times 10^{13} \text{ n cm}^{-2} \text{ s}^{-1}$

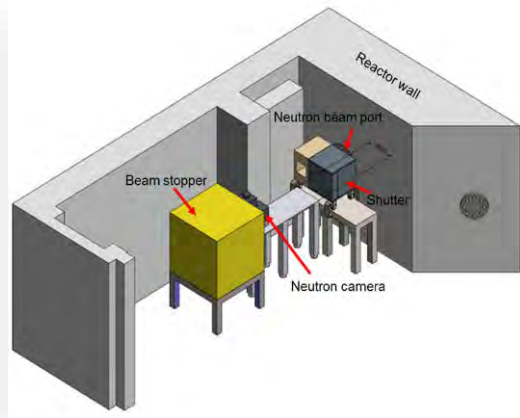


Neutron imaging status report

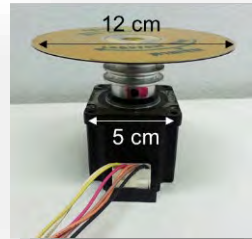
NI facilities at Thai Research Reactor TRR-1/M1



Power = 1.2 MWth
 N flux = 10^6 n/cm²s
 L/D ratio = 50



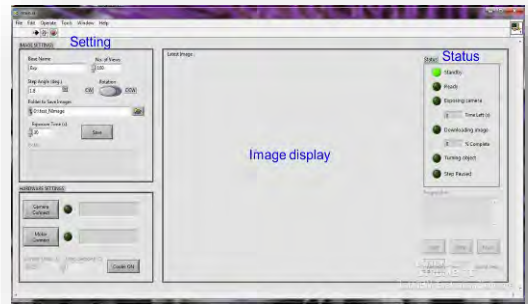
Renovated imaging room (L/D = 60)



In-house rotation stage



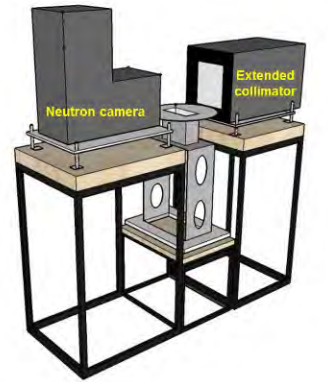
CCD neutron camera



In-house developed control software (LabVIEW)



Tomography reconstruction software

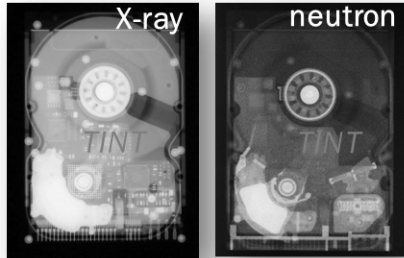


New rotation stage

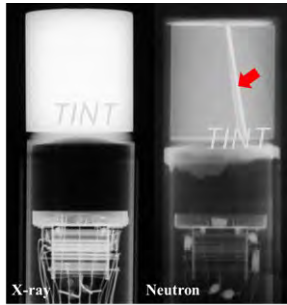


NI applications

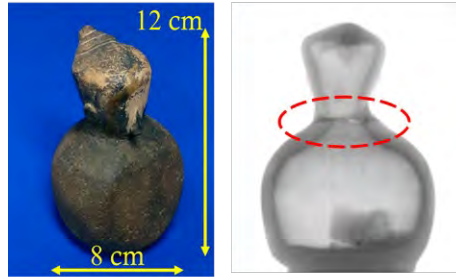
2D images



Hard disk



Gamma ray detector



Ancient doll



Buddha statue

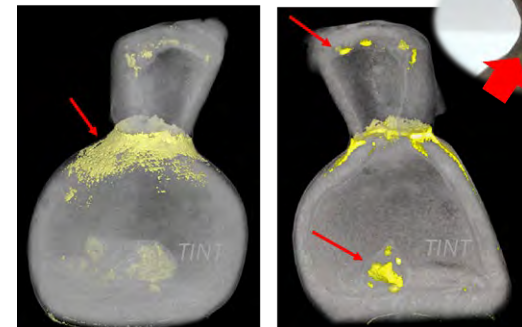


Rose

3D images;
1.8 degree, 30 sec, 101 projections



3D neutron visualization

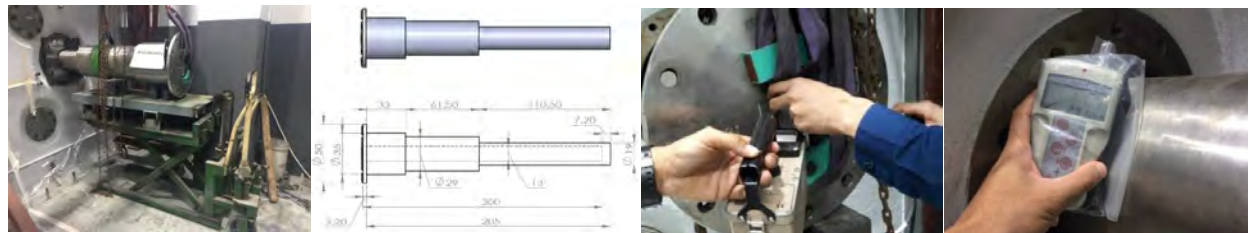


Light element or organics compound

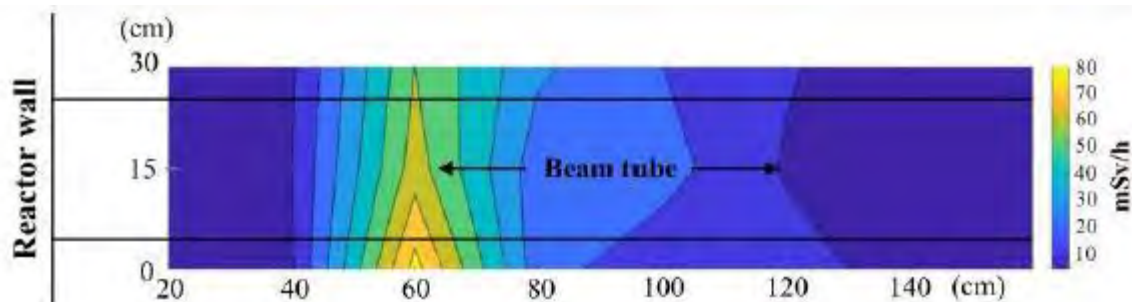


Neutron diffraction

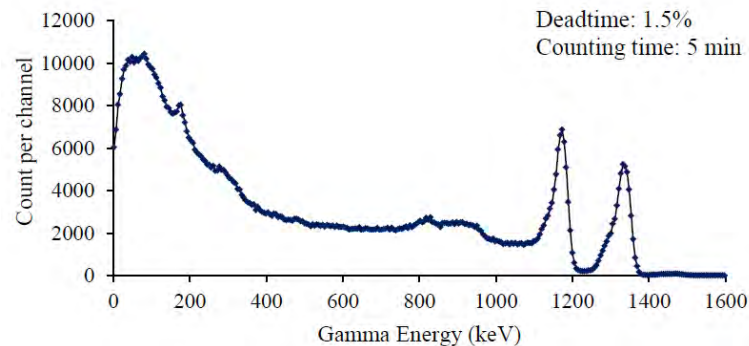
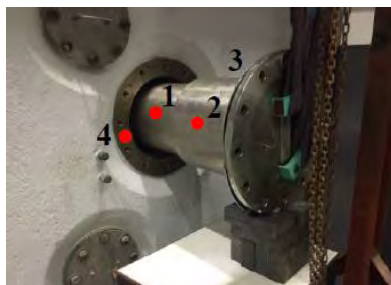
Decommissioning effort



- Installed in 1968
- Low neutron flux ($\sim 8 \times 10^3$ n/cm²-s)
- High background, limited space, etc.



Check point	Elemental concentrations (%)				
	Fe	Cr	Ni	Mn	Cu
1	71.28	17.81	7.84	1.51	0.30
2	71.20	17.79	7.71	1.58	0.32
3	71.35	17.83	7.80	1.51	0.31
4	63.75	17.47	7.79	1.68	0.23





Under reorganization process



สถาบันเทคโนโลยีนิวเคลียร์แห่งชาติ
(องค์การมหาชน)

Assoc. Prof. Dr. Thawatchai Onjun
TINT Executive Director

Conclusions

- TINT is now capable of neutron tomography. The upgrade of the camera and lens system is planned for 2021.
- Effort to establish new neutron diffraction facility is planned start in 2020.
- We look forward to participate in AONSA activities as we develop our neutron scattering program in Thailand.



Thank You for your attention

Thailand Neutron Scattering committee at TINT

1. Roppon Picha (R&D Division)
2. Kanokporn Boonsirichai (R&D Division)
3. Suthipong Boonmak (Reactor Center)
4. Kanchalika Dechates (International Cooperation Section)
5. Jatechan Channuie (Reactor Center)
6. Apichate Maneewong (Irradiation Center)

