

As of November 2021

***Report from AONSA Office***  
-After EC meeting in June 2021 by online

**Budget**

Issue receipts of Annual Fee by secretary's name.  
Confirm and update deposit / withdrawal of the bank account as required.

**Collecting Annual Fee (membership fee 2021)**

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.

**Message from AONSA Office**

Following announcements were distributed to the AONSA members.  
September 21 - (The 5th Neutron and Muon School at J-PARC)  
September 22 - (Advanced Notice on J-PARC MLF 2022A Call for General Use Proposals  
(Short-term and One-year))

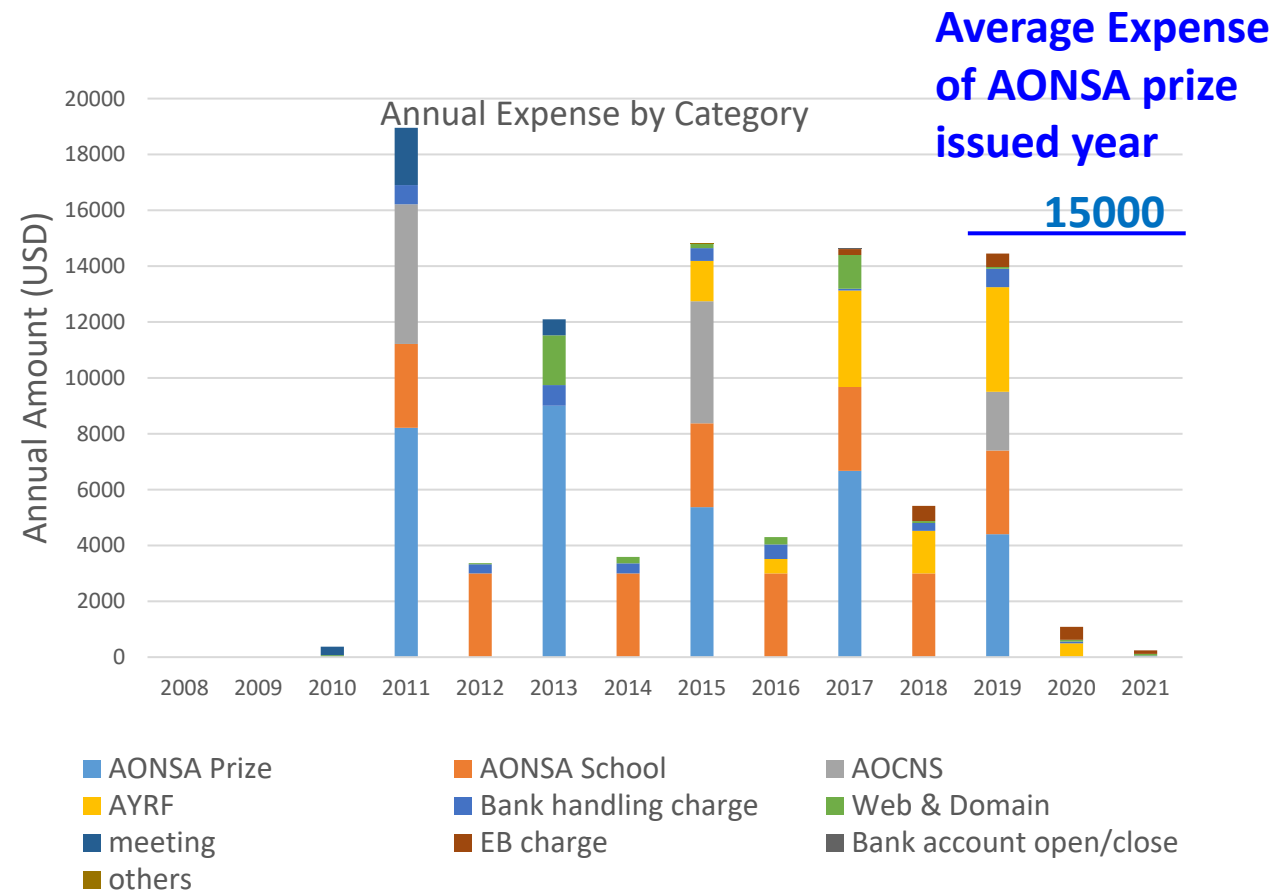
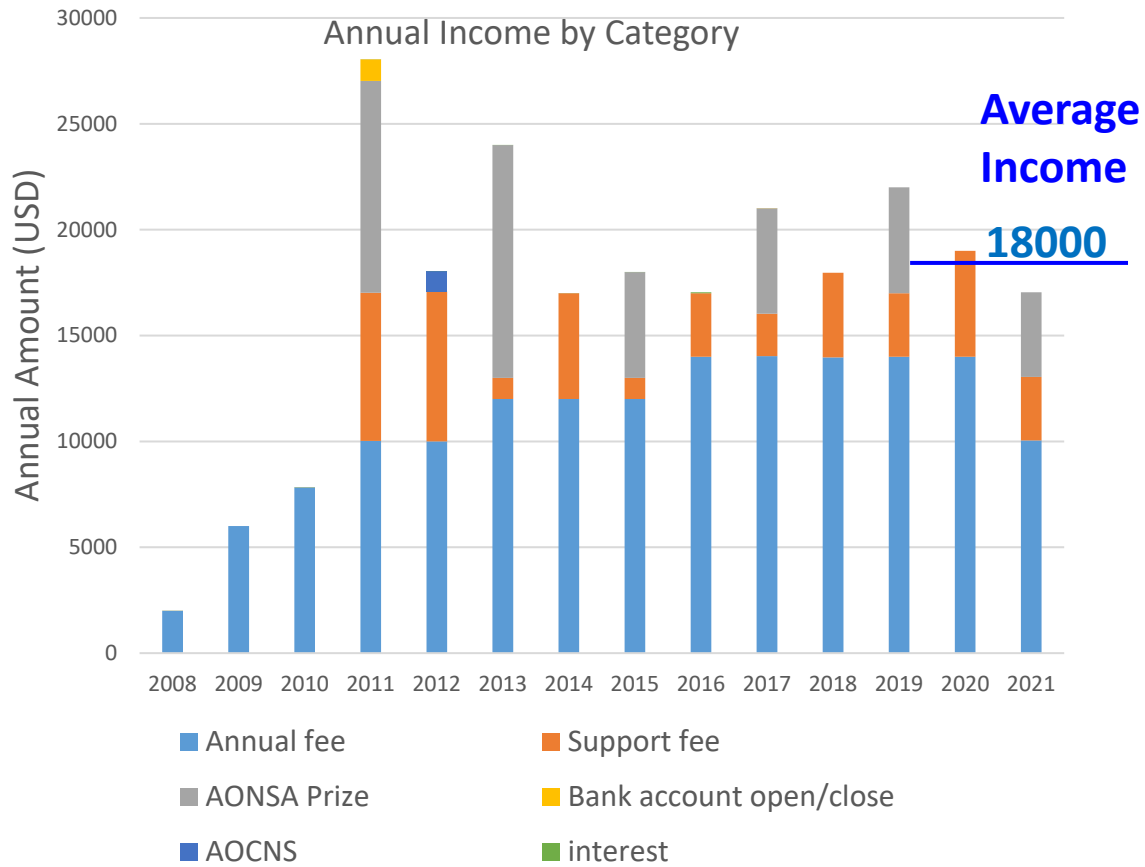
**Others**

Remove Prof. Kenji Nakajima from the mailing list of AONSA OFFICE (aonsa-admin@ml.j-parc.jp), and add Prof. Yukinobu Kawakita to it.



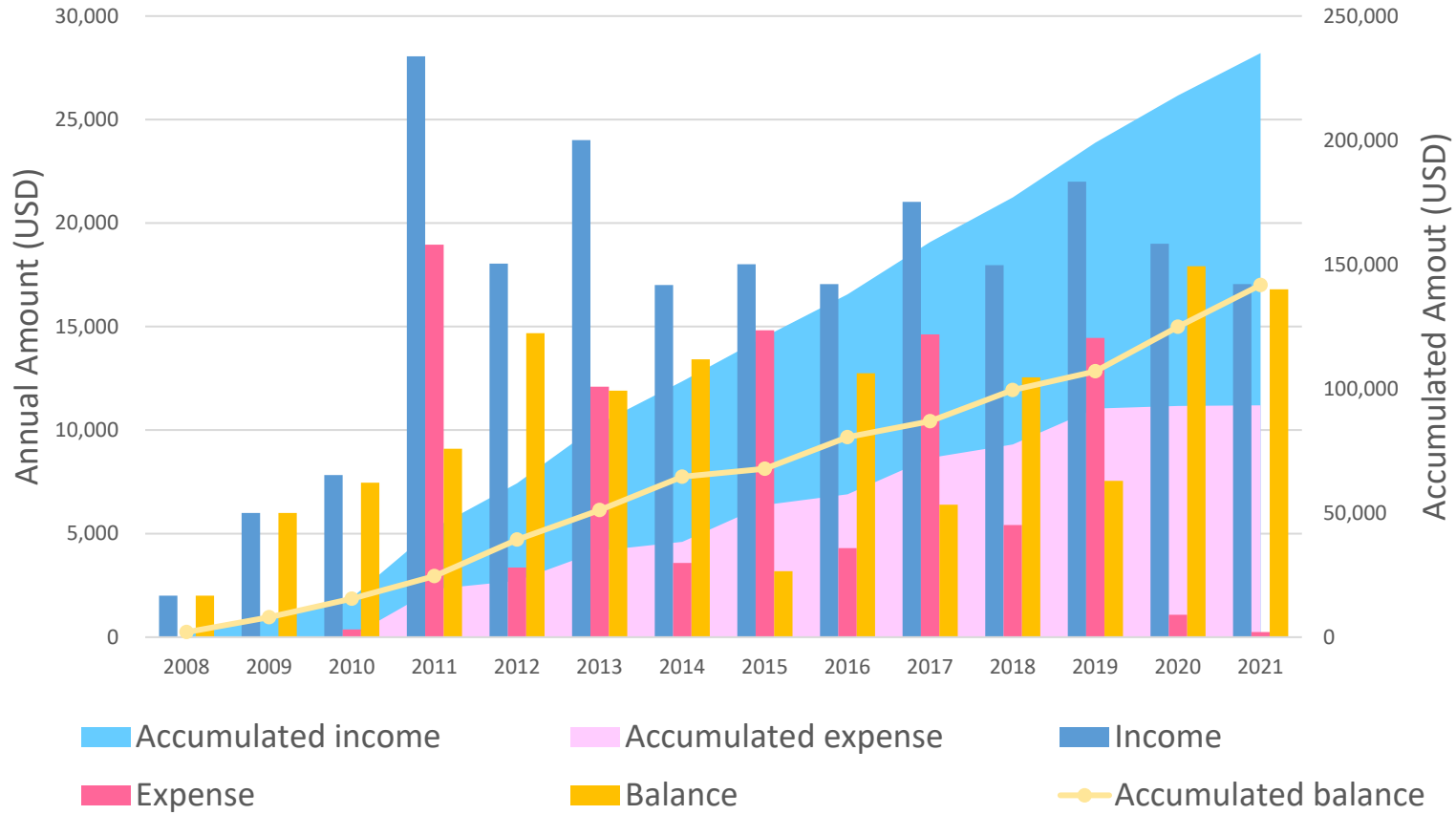
# AONSA Budget Statistics

2021-11-10



Due to inflation, the suggestion annual expenses for every two years and considering the inflation is around USD:17000  
 The net balance for every two years will be around USD:12000 or less.  
 Any consideration for setting up such as the mid-carrier award and others has better to constrain to less than USD 10000 for every two years or <5000 for every year.

Annual and Accumulated Balance



**Total Balance until 2021 (USD)**

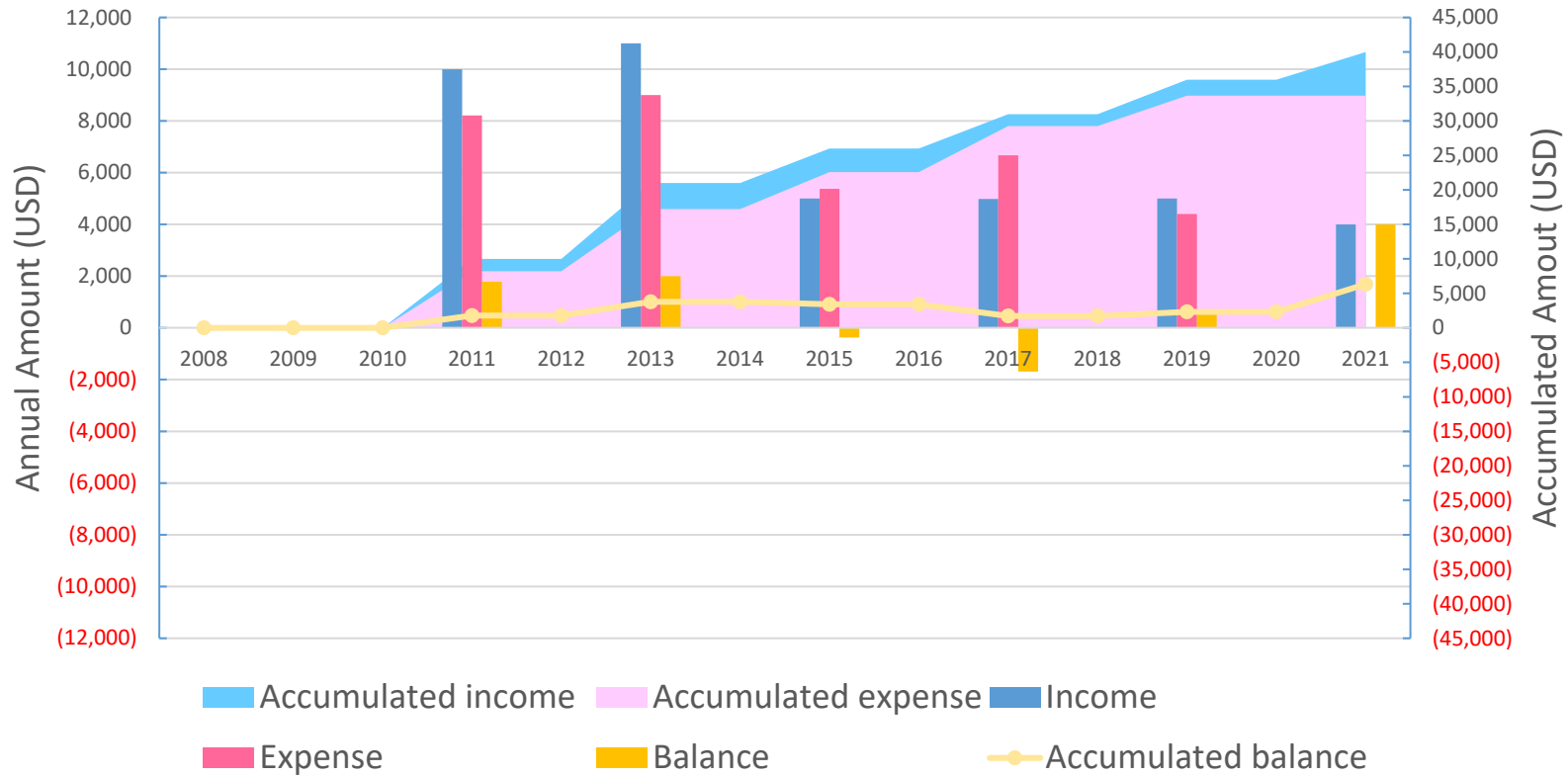
~\$98,200 (office)

**+** ~\$38,770 (prize)

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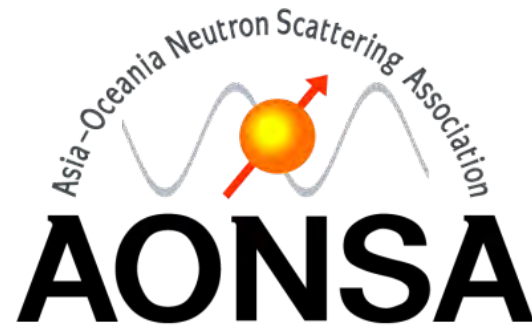
~\$137,000

Annual and Accumulated Balance for AONSA Prize



~\$38,770

# AONSA EC Meeting Financial Report



Hsiung Chou (Treasurer of AONSA, TWNSS)

2021-06-26

Video Meeting



2021

# 台灣中子科學學會年會暨中子散射技術研討會

## Plenary Speaker :



李文献 教授 高梓木 博士

## Keynote Speaker:

林志明 教授 孫亞賢 教授  
周 雄 教授 楊延齡 教授  
杜昭宏 教授 陳威廷 博士  
黃子宴 博士 矢野真一郎 博士  
李瀨銘 博士 Dr. Bradley Manley

大會主席：楊仲準 理事長 (中原大學)  
合辦委員：周 雄 教授 (中山大學)  
朱哲毅 教授 (中興大學)  
陳孝輝 博士 (核能研究所)  
鄭有舜 博士 (同步輻射中心)  
莊偉綜 博士 (同步輻射中心)  
葉林秀 教授 (雲林科技大學)

### 會議時間

2021年11月19-20日

### 會議地點:

高雄城市商旅- 真愛館/中山大學  
高雄市鹽埕區大義街1號

### 報名方式: (線上報名)

2021年10月19日至10月31日

### 註冊費 (不包含住宿):

學生1000元、一般人士2000元、

### 匯款方式:

戶名: 社團法人台灣中子科學學會  
銀行: 永豐銀行  
帳號: 044-018-0009116-1  
聯絡專線: 0928221206 楊老師  
電子郵件: twnss2021@gmail.com

### 報名網址:

<https://raurl.cc/l57mka>



2021/11/19 (會議地點: 城市商旅- 真愛館 / Venue: City Suit- Chenai)			
TWNSS	Hard Matter (On the way to venue)	Soft Matter (On the way to venue, Video conference)	NSRRC
09:10-09:35		Katy Wood (SAS Instrumentation) (Australia)	09:10-09:35
09:35-10:00		Oyoon Shih 謝宜之 (Taiwan)	09:35-10:00
10:25-10:50	報到 (Registration)	Norman Booth (Sample Environments for SAS) (Australia)	10:25-10:50
10:50-11:00			
11:00-11:05	Opening Remark (星光廳)	Jhih-Min Lin 林智敏 (Taiwan)	10:50-11:15
11:05-11:20	會員大會/會務報告 (TWNSS Affair Reports)	Tamara Darwin (Deuterium for SAS) (Australia)	11:15-11:25
11:20-12:00	高梓木 (Tsu-Mu Kao) 核研所/INER Plenary Talk I	Wei-Tsung Chuang 莊國錫 (Taiwan)	11:25-12:00
12:00-13:00	Lunch		

TWNSS	Hard Matter (星光廳/ Hsin-Kuang Hall)	Soft Matter (Video Conference / 星光廳 / Chi Hsiang Hall)	NSRRC
13:00-13:20	Lunch	Chi-Chang Hsu 蘇耀中	13:00-13:20
13:20-13:50	矢野真一郎 (Shinichiro Yano) 同步輻射/NSRRC Invited Talk I	Chien-Liang Wang 王建輝	13:20-13:40
13:50-14:20	陳威廷 (Wei-Tin Chen) 台大基能/CMS NTU Invited Talk II	Yi-Tzu Chou 蔡益群	13:40-14:00
14:20-14:30		Jung-Bin Huang 黃仲仁	14:00-14:20
14:30-14:50	林志明 (Chih-Ming Lin) 清大物理/Department of Physics, NTHU Invited Talk III	Break	
14:50-15:30	李瀨銘 (Lee How-Ming) 核研所/INER Invited Talk III	Discussion	
15:30-16:00	Discussion	14:30-15:00	
16:00-16:10	Check in	Closing Remark	
16:10-18:00	Memorial Video of Prof. Seng-Hon Chew (on-line)		
18:10-20:00	Banquet (at the Hotel, Kaohsiung)	Banquet (at Hsin-Chu)	

會議地點: 中山大學物理系 / Venue: Department of Phys., NSYSU			
TWNSS	Hard Matter	Soft Matter	說明
09:10-09:50	李文献 (Wen-Hsien Li) 中央物理/Department of Physics, NCU Plenary Talk II		
09:50-10:20	杜昭宏 (Chao-Hung Du) 淡江物理/Department of Physics, TKU Invited Talk III	孫亞賢 (Ya-Sen Sun) 中央化材/Department of Chemical and Materials Engineering Invited Talk IV	
10:20-10:40	Break		
10:40-12:00	Poster Session		理監事會議/Board Meeting
12:00-13:30	Lunch		
13:30-14:00	周謙 (Hsiung Chou) 中山物理/Department of Physics, NSYSU Invited Talk V	黃子宴 (Tzu-Yen Huang) 同步輻射/NSRRC Invited Talk VII	
14:00-14:30	黃翰熙 (Yu-Hsi Liang) 淡江物理/Department of Physics, TKU Contributed Talk III	Bradley W. Manley 同步輻射/NSRRC Invited Talk	
14:30-14:40	Move to Main Conference Hall		
14:40-15:00	Dr. Mark Robert Johnson (ILL) Taiwan@ILL		Special Events
15:00-15:40	Break		
Special Topics: The Application of Machine Learning in Neutron Scattering			
15:40-16:20	楊延齡 (Yan-Ling Yang) 淡江化工/Department of Chemical and Materials Engineering, TKU Plenary Talk IV		Machine Learning
16:20-16:40	陳奕世 (Cen-Hsiung Tung)		Machine Learning
16:40-18:00	潘文材 (Pan-Wen-Tsung) 淡大材料/Department of Material Science and Engineering / Closing Remark		

2021-11-19

AONSA Annual fee (JPY) - by category		
	2020/11/28 2021/06/24	2020/11/28 2021/06/24
Category	Income	Income
Previous Balance	9,693,749	10,758,506
Annual fee	1,092,999	225,560
Donation	761,690	112,780
interest	42	NA
<b>Total amount</b>	<b>11,548,480</b>	<b>11,096,846</b>
Category	Expense	Expense
AONSA travels		
AYRF 2020		
EB & domain charge	22,524	~22,524
Bank handling charge	5760	1,770
Transfer to Prize Fund	761,690	0
<b>Total amount</b>	<b>789,974</b>	<b>24,294</b>
<b>Total Balance</b>	<b>10,758,506</b>	<b>11,072,552</b>

Annual Fee (\$2000) :

KNBUA, ANBUG(2025), INSS(2022.5) , CNSS, TWNSS  
JSNS(2000), NSSI, Tailand, Malaysia

Donations (\$1000Xn):

KNBUA:1000; ANBUG:1000; CNSS:1000; ; TWNSS:1000;  
JSNS: 1000  
Voluntary Additional Fee: ANBUG:2000; TWNSS:1000

- The Base membership fee: \$2,000  
 - AONSA Prize Fund fee: \$1,000  
 - Voluntary additional fee: \$1,000 x \_\_\_ units  
 Total annual membership fee: \_\_\_\_\_

AONSA travels:

AYRF:

EB charge (JPY 2200/month, internet banking monthly)  
Domain & Website charge (JPY 7124)  
Bank handling charge (JP Payment, USA->JPY:1000,  
Office->Prize:770)

~\$98,200 (←\$93,500 of 2020)

Δ~ + 1.38M JPY  
~ + 5000 USD



2020-11-20

AONSA Prize Fund				
Date (Y/M/D)	Item	Income (JPY)	Expense (JPY)	Balance (JPY)
2021/06/24	Previous balance in 2019	4,259,552		4,259,552
2021/11/~	Interest	15		4,259,567
2021/11/	Donation	112,780		4,372,347
	<b>Total amount</b>	<b>4,372,347</b>	<b>0</b>	<b>4,372,347</b>

~\$38,770 (←93500 of 2020)

# AONSA **future** (NEXT 6 MONTHS) **budge plan**

## Income

AONSA Annual Fee: \$24000

Interest: few

Donation: \$~2000

## Expense

YRF \$3000

12<sup>th</sup> Neutron Sch \$3000

EB charge: \$ ~100 JPY2200/month

Bank Handling: \$ ~100 dep. on handling process

**OFFICE ~ \$17,800**

**PRIZE ~ \$2,000**

Financial Balance of 2021-06-26 EC Meeting

2021-06-26

AONSA Annual fee (JPY) - by category		
	2020/06/20 2020/11/28	2020/11/28 2021/06/24
Category	Income	Income
Previous Balance	9,090,820	9,693,749
Annual fee	626,460	1,092,999
Donation	103,840	761,690
interest	39	42
Total amount	9,821,159	11,548,480
Category	Expense	Expense
AONSA travels		
AYRF 2020		
EB & domain charge	19,800	22,524
Bank handling charge	3,770	5760
Transfer to Prize Fund	103,840	761,690
Total amount	127,410	789,974
Total Balance	9,693,749	11,548,480

**Annual Fee (\$2000) :**

KNBUA, ANBUG(2025), INSS(2022.5) , CNSS, TWNSS  
JSNS, NSSI, Tailand, Malaysia

**Donations (\$1000Xn):**

KNBUA:1000; ANBUG:1000; CNSS:1000; ; TWNSS:1000;  
Voluntary Additional Fee: ANBUG:2000; TWNSS:1000

- The Base membership fee: \$2,000
  - AONSA Prize Fund fee: \$1,000
  - Voluntary additional fee: \$1,000 x \_\_\_ units
- Total annual membership fee: \_\_\_\_\_

**AONSA travels:**

**AYRF:**

**EB charge** (JPY 2200/month, internet banking monthly)

**Domain & Website charge** (JPY 7124)

**Bank handling charge** (JP Payment, USA->JPY:1000,  
Office->Prize:770)

~\$104,920 (←\$93,500 of 2020)

<b>AONSA Prize Fund</b>				
<b>Date (Y/M/D)</b>	<b>Item</b>	<b>Income (JPY)</b>	<b>Expense (JPY)</b>	<b>Balance (JPY)</b>
2020/11/25	Previous balance in 2019	3,497,847		3,497,847
2021/02/22	Interest	15		3,497,862
2021/06/18	Donation	541,550		4,039,412
2021/06/24	Donation	220,140		4,259,552
	<b>Total amount</b>	<b>4,259,552</b>	<b>0</b>	<b>4,259,552</b>

~ \$38,700 (←33700 of 2020)

# AONSA **future** (NEXT 6 MONTHS) **budge plan**

## Income

AONSA Annual Fee: \$4000  
Interest: few  
Donation: \$~1000

## Expense

YRF \$0  
12<sup>th</sup> Neutron Sch \$0  
EB charge: \$ ~150 JPY4400/month  
Bank Handling: \$ ~100 dep. on handling process

**OFFICE ~ \$108,920** (←\$75,000 of 2019)

**PRIZE ~ \$39,700** (←\$26,970)



# Financial Balance of 2021-11-28 EC Meeting

2020-11-28

AONSA Annual fee (JPY) - by category

	2019/11/12 2020/06/20	2020/06/20 2020/11/28
Category	Income	Income
Previous Balance	8,256,695	9,090,820
Annual fee	860,540	213,055+207,680+205,725
Donation	426,860	103,840
interest	35	39
AOCNS2019 refund	429,315	
Total amount	9,973,445	9,821,159
Category	Expense	Expense
AONSA travels	224,501	
AYRF 2020	185,950	
EB & domain charge	42,324	4,400+4,400+4,400+4,400 +2,200
Bank handling charge	2,990	1,000+1,000+1,000+770
Transfer to Prize Fund	426,860	103,840
Total amount	882,625	127,410
<b>Total Balance</b>	<b>9,090,820</b>	<b>9,693,749</b>

Annual Fee (\$) :

TWNSS, CNSS, ANBUG, JSNS,  
INSS(2000), KNBUA(2000), NSSI(1985)

Donations (\$) :

CSNS:1000; ANBUG:2000; JSNS:1000;  
KNBUA:1000

AONSA travels:

Mahn Won Kim & Yasuhiko Fujii

AYRF:

Mingyoung Yoon, Chi-Hung Lee

EB charge (JPY 4400/month, internet  
banking monthly)

Domain charge (JPY 7124)

Bank handling charge (JPY, USA->JPY:1000,  
Office->Prize:770)

~\$93,500 (←\$75,000 of 2019)



2020-11-28

<b>AONSA Prize Fund</b>				
<b>Date (Y/M/D)</b>	<b>Item</b>	<b>Income (JPY)</b>	<b>Expense (JPY)</b>	<b>Balance (JPY)</b>
2019/11/08	Previous balance in 2019	<b>2,967,121</b>		<b>2,967,121</b>
2020/02/17	Interest	13		2,967,134
2020/06/11	Donation	426,860		3,393,994
2020/08/17	Interest	13		3,394,007
2020/11/25	Donation	103,840		3,497,847
	<b>Total amount</b>	<b>3,497,847</b>	<b>0</b>	<b>3,497,847</b>

~\$33,700 (←26970)

# AONSA **future** budget plan

## Income

AONSA Annual Fee: \$14000  
Interest: few  
Donation: \$~5000

## Expense

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

Financial Balance of 2020-06-20 EC 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
<b>Total Balance</b>	<b>9,090,820</b>

### 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)

<b>AONSA Prize Fund</b>				
<b>Date (Y/M/D)</b>	<b>Item</b>	<b>Income (JPY)</b>	<b>Expense (JPY)</b>	<b>Balance (JPY)</b>
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
	<b>Total amount</b>	<b>3,393,994</b>	<b>0</b>	<b>3,393,994</b>

~\$31,900 (+4000)

# AONSA **future** budget plan

## Income

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

## Expense

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

## AONSA Mid-carrier Award (tentative)

### **AONSA Mid-carrier Award (tentative)**

(Established on *Mmm dd, yyyy*)

The Asia-Oceania Neutron Scattering Association (AONSA) awards the AONSA Mid-carrier Award (tentative; AONSA MCA) every two years to a person at the middle of his/her carrier to recognize his/her outstanding scientific achievement, **including neutron instrumentation**, that has a significant impact or contribution to the neutron science community in the Asia-Oceania Region.

#### **1. Rules**

- a. The AONSA MCA shall be awarded to one person. Recipient should receive the AONSA MCA only once.
- b. The AONSA MCA consists of a certificate citing the contributions made by the recipient and a monetary prize. The amount shall be decided by the AONSA Executive Committee (hereafter referred to as the EC).

#### **2. Nomination and Eligibility**

- a. Nomination shall be opened to anyone who is **within 18 years of receiving his/her PhD degree or equivalent (on the day of application deadline) with the exemption for carrier interruptions\***.
  - 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 AONSA MCA.
  - c. A nomination should include:
    - A letter of not more than 5,000 characters evaluating the nominee's qualification for the AONSA MCA and identifying the specific work to be recognized.
    - A brief curriculum vitae (up to 5 pages)
    - A short list of major publications (highlighting top 10 with a short statement less than 150 words description of the significance of the work by the nominee)
    - Up to 10 reprints/preprints or links to publications
    - At least two, but not more than four letters of support
  - d. Nomination should be electronically submitted to Chair of the SC by the deadline issued by the SC.
  - e. Nomination shall be active through only one review cycle.
  - f. **It is strongly encouraged that nominations of candidates shall be made from diverse backgrounds, including those from diverse geographic, religious and gender backgrounds.**
- \* The carrier interruptions may include relocation, medical condition, maternity leave and so on. The date of receiving a PhD degree or equivalent and the list of the interruption should be clearly stated in the end of the letter of nomination .**

#### **3. Selection Committee**

- a. AONSA Prize selection committee (SC), chaired by the AONSA Vice President, shall work for the AONSA MCA selection.
- 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. Regional balance shall be taken into account for the selection of the AONSA MCA. 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. Co-opt member(s) shall work both for the AONSA Prize and AONSA MCA.
- 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 of recipient 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 MCA Ceremony at AOCNS or ICNS

Report for the YRF 2021 selection  
2021/11/20 AONSA EC meeting

YRF 2022 selection committee (continued):

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)

1. Procedure

2020/08/08: Call for applications for the AONSA Young Research Fellow is distributed to the member society. (Also advertised at the AONSA website.)

2020/08/31: Call for applications closed. (Three applications were received.)

2020/09/01-2020/11/03: Discussion was made via emails. Since all the three applicants aimed at visiting J-PARC this year, the competition rate became quite high. Hence, this time we decide to review all the applications by all the committee members, instead of selecting leading reviewers. Email discussion was done based on the application forms, research plans, recommendation letters and review reports.

2020/11/12: Electronic vote closed.

2020/11/12: Facility directors were unofficially consulted about the selected provisional candidates.

2. Reviews on the tentative selected candidates, who are to be confirmed by J-PARC contact person.

2.1 Dr. Naeem, Muhammad

Research Project: Deformation behavior of coherent intermetallic nanoparticle-strengthened high-entropy alloys at cryogenic temperatures.

Visiting Facility and Instrument: J-PARC TAKUMI

Review Comment: This proposal is to investigate deformation behavior of nanoparticle strengthened high-entropy alloys at cryogenic temperatures. The applicant has a very well thought out plan and even has accepted beamtime at J-PARC. He has a contact/collaborator in mind and his project would greatly benefit from this program at J-PARC. The applicant already has beamtime at J-PARC and has experience in using neutron diffraction for his study on deformation of metal at low temperature. This program will provide him the opportunity to take full advantage of the advanced sample environment equipment at J-PARC for his study, and hence will enrich the applicant's expertise.



## 2.2 Dr. Li, Chunli

Research Project: Investigation on the structure characteristics of nickel-rich cathode ( $\geq 0.9$ ) for lithium-ion batteries and the mechanism of doping optimization based on neutron diffraction

Visiting Facility and Instrument: J-PARC SHRPD

Review Comment: The proposal is on the structural characterization of nickel-rich cathode materials for improving performance of lithium-ion batteries. The applicant has a very detailed scientific plan to study lithium battery materials by using neutron diffraction. The applicant appears to have already some experience with powder diffraction techniques at ANSTO. However, this proposal is quite generic and could be applied to any neutron scattering facility. There is no indication that J-PARC is critical for this work.

# Public Relations Report

from 2021/6 to 2021/11

AONSA EC Meeting Online Zoom

David Cortie (University of  
Wollongong/ANSTO/ANBUG)



UNIVERSITY  
OF WOLLONGONG  
AUSTRALIA



# WEBSITE UPDATES

**AONSA** Asia-Oceania Neutron Scattering Association

Breaking news: AONSA Prize and AONSA Young Research Fellowships have been announced

About AONSA | AONSA News | AONSA Activities | Links

TOPIOS | Breaking news: Announcement of the AONSA Neutron Prize for 2021 to Prof. Rob Robinson | Announcements

### AONSA Young Research Fellowship

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. Please note, due to the COVID-19 pandemic, there is an uncertainty in the number of available Fellowship positions and hosting facilities.

Provisional hosting Neutron Facilities in 2022 are J-PARC (Japan), CSNS (China), and CARR (China). Three Fellowship positions may be available at a maximum in this application round depending on the situation (maximum 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](mailto:fujii.misono@jaea.go.jp)) with c.c. to [taku@tohoku.ac.jp](mailto:taku@tohoku.ac.jp) by **August 31, 2021**. The results will be communicated to applicants in November 2021 and the Fellowship visits will start in 2022.

More details about the application process are available in the links below:

[Call-for-applications-for-the-AONSA-YRF-2022-final-including-guidelines-and-eligibility](#) [Download](#)

## Updates

- 2021/07/05 – Minutes from 21<sup>st</sup> FDM
- 2021-08-6 – Young research fellows and AONSA prize rules /call
- 2021-11 - Installed Duplicator plugin and complete backup (2021-Nov-20.zip in FTP)
- 2021-11 Updated WordPress to version 5.8.2 (Security update)

**AONSA Newsletter February 2021 released!**

Meetings and Events

[Tweet](#) [Share](#) [G+](#) [Hatena](#) [Pocket](#) [RSS](#) [feedly](#) [Pin it](#)

4-coordinated carbon atom  
2-coordinated carbon atom

Maximum Fluence  
Fresh

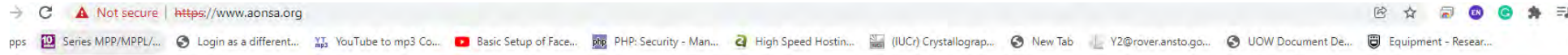
$S(Q)$  (arb units) vs  $Q$  ( $\text{\AA}^{-1}$ )

The AONSA newsletter has the latest news from around the region, with updates from facilities and user groups. The February 2021 edition is now available for download here:

[AONSA Newsletter February 2021 Volume 12, Issue 2](#)

It includes research highlights from the community, and announcement of the AONSA prize and Young Research Fellowship.

# WEBSITE SECURITY/ACCESS ISSUES



## Your connection is not private

Attackers might be trying to steal your information from **www.aonsa.org** (for example, passwords, messages, or credit cards). [Learn more](#)

NET::ERR\_CERT\_COMMON\_NAME\_INVALID

To get Chrome's highest level of security, [turn on enhanced protection](#)

Advanced

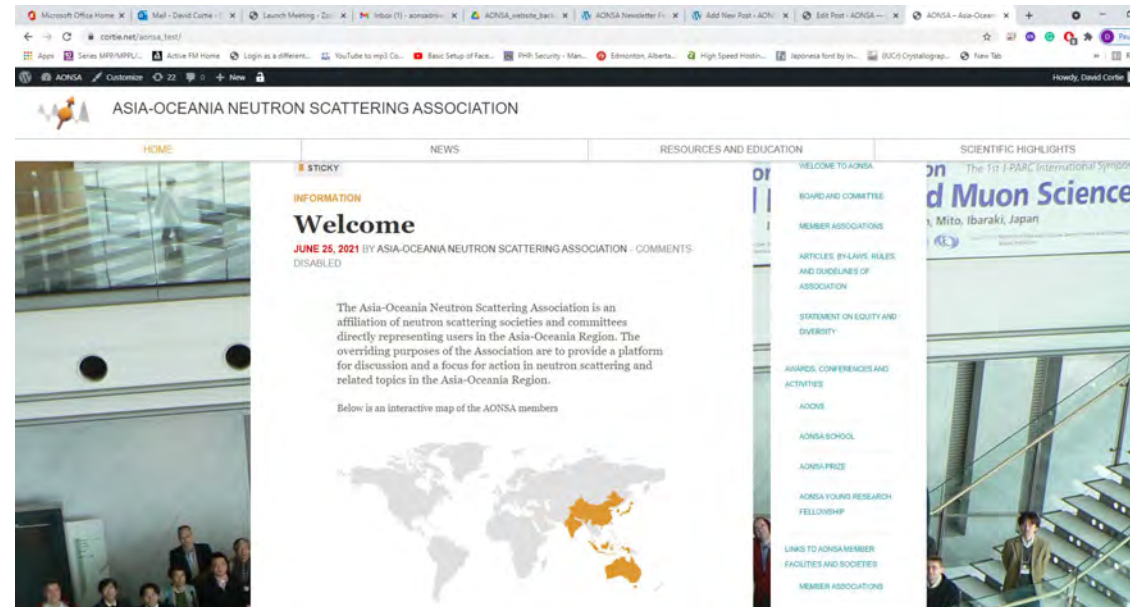
Back to safety

MyASUS

- Current host lacks SSL security certificate, causing error on some modern browsers which automatically append “https”

# Draft of new website

- New website is being commissioned in parallel with old site.
- Will eventually replace old site.
- Draft site available at [www.cortie.net/aonsa\\_test](http://www.cortie.net/aonsa_test)
- Password: NeutronsHaveNoCharge
- Please send me feedback/recommendations/images/photos!



# The next AONSA newsletter

- To be issued in December 2021  
Deadline: 10 December 2021
- Contents:
  - 1 President's message (Dongfeng Chen)
  - 2 Reports on the AONSA EC meeting (Jae-Ho Chung) ✓
  - 3 AONSA Prize (Taku Sato)
  4. Neutron facility directors meeting report (F. Wang)
  - 5 AONSA Young Research Fellows (Taku Sato)
  - 6 AONSA Neutron School (F. Wang)
  - 7 Reports from neutron associations
    - ANBUG (Y. Liu)
    - CNSS (D. Chen)
    - INSS (E. Kartini)
    - JSNS (K Kakurai)
    - KNUBA (J.-H. Chung)
    - NSSI (S. M. Yusuf)
    - TWNSS (Prof. Chou)
    - 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.

Please send to:

[aonsanews@gmail.com](mailto:aonsanews@gmail.com)

# PLAN FOR AN AONSA UPDATE ARTICLE IN *NEUTRON NEWS*

Impact Factor IF  
2020-2021  
0.55



Home > All Journals > Neutron News > List of Issues > Volume 32, Issue 3



## Neutron News

[Publish open access in this journal](#)

Presents meeting reports from leaders in neutron research and scientific research and case reports on neutron scattering, research and site studies.

This Journal

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[Current issue](#) [Browse list of issues](#) [Explore](#)

### About this journal

- [Journal metrics](#)
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- [Instructions for authors](#)
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- [Related websites](#)
- [News & calls for papers](#)

### News and offers

The most up-to-date resource for the neutron community

Volume 32, 2021

Vol 31, 2020

Vol 30, 2019

Vol 29, 2018

Vol 28, 2017

Issue 3

Issue 2

Issue 1

[Download citations](#) [Download PDFs](#)

[Browse by section](#)

Your search for **[All: aonsa] AND [in Journal: Neutron News]**

1-10 of 35 results

Articles (35)

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Order by Relevance

10 per page

Article

[8th AONSA Neutron School Held at Bhabha Atomic Research Centre >](#)

R. Mittal & S. M. Yusuf

Neutron News, Volume 28, 2017 - Issue 2

Published Online: 09 May 2017

Article

[The AONSA Prize 2015 >](#)

Sung-Min Choi & Chris D. Ling

Neutron News, Volume 26, 2015 - Issue 1

Published Online: 11 Feb 2015

Article

[The 6th AONSA Neutron School 2014 Meets in Serpong, Indonesia >](#)

Edy Giri Rachman Putra

Neutron News, Volume 26, 2015 - Issue 2

Published Online: 21 May 2015

# 22<sup>nd</sup> Asia-Oceania Neutron Facility **Directors' Meeting**

Date: November 19, 2021

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

Duration time: 4:00 (without a break)

Location: ZOOM internet conference



- 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. Photo (Screen Capture)**
- 7. Facility Updates (10 min each)**
  - i. CSNS**
  - ii. HANARO**
  - iii. J-PARC**
  - iv. JRR-3**
  - v. OPAL**
  - vi. CARR/CIAE**
  - vii. CMRR**
  - viii. DHRUVA**
  - ix. G. A. Siwabessy**
  - x. IVV-2M Reactor (M.N. Mikheev Institute of metal physics)**

- 8. AONSA Business**
  - a. AONSA Young Research Fellows**
  - b. Next AONSA Neutron School**
- 9. Discussion on the challenges, opportunities and cooperation of neutron facilities**
- 10. Other business:**
  - a. Upcoming Neutron Meetings**
    - i. ICNS 2022 - Argentina**
  - b. Next Meeting & Chair**
- 11. Closing remark**

## **Participants (19 persons):**

[Chair]

Jamie Schulz (ANSTO)

[FDM Members]

Young-Soo Han (HANARO)

Fangwei Wang (CSNS)

Toshiya Otomo (J-PARC/KEK)

Masayasu Takeda (JRR-3/JAEA)

Kai Sun (CARR/CIAE)

Guang-ai Sun (CMRR)

P. U. Sastry (DHRUVA)

Iwan Sumirat (G. A. Siwabessy)

[EC Board Members]

Dongfeng Chen (President, CNSS, CIAE)

Jae-Ho Chung (Secretary, KNBUA, Korea Univ.)

David Cortie (Public Relations Officer, Univ. of Wollongong)

S. M. Yusuf (Member-at-Large, NSSI, BARC)

[EC Members]

Kazuhisa Kakurai (JSNS, CROSS)

Yun Liu (ANBUG, Australian National U)

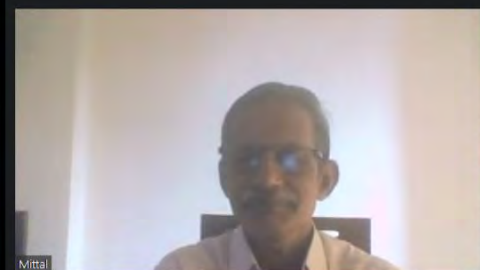
[Observers]

Andrei Gubkin (Russian Observer, IVV-2M)

Hideki Seto (AONSA Office Liaison; J-PARC/KEK)

Ferly Hermana (BATAN)

Dong Liu (CMRR)



# Facility Updates

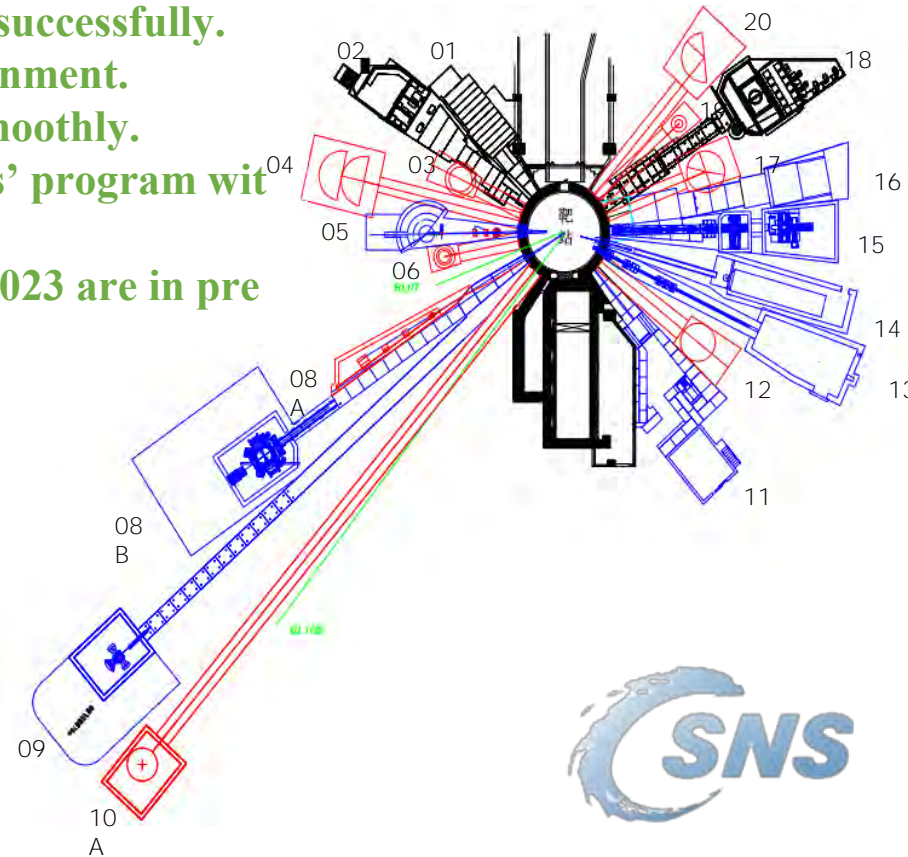
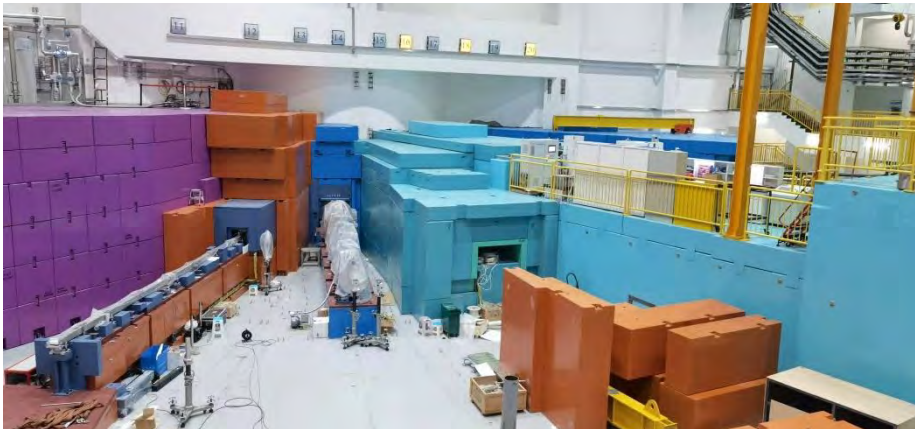
Facility directors or their representatives, 10 min. each

# Facilities

1. CSNS - Fangwei Wang
2. HANARO - Young-Soo Han
3. J-PARC - Toshiya Otomo
4. JRR-3 - Masa Takeda
5. OPAL - Jamie Schulz
6. CARR/CIAE - Kai Sun
7. CMRR - Guang-ai Sun
8. DHRUVA - P. U. Sastry
9. G. A. Siwabessy - Iwan Sumirat
- ~~10. PIK & IR 8 Reactor - NRCKI - Viacheslav Em~~
11. IVV-2M Reactor (M.N. Mikheev Institute of metal physics)  
- Andrei Gubkin

## CSNS summary

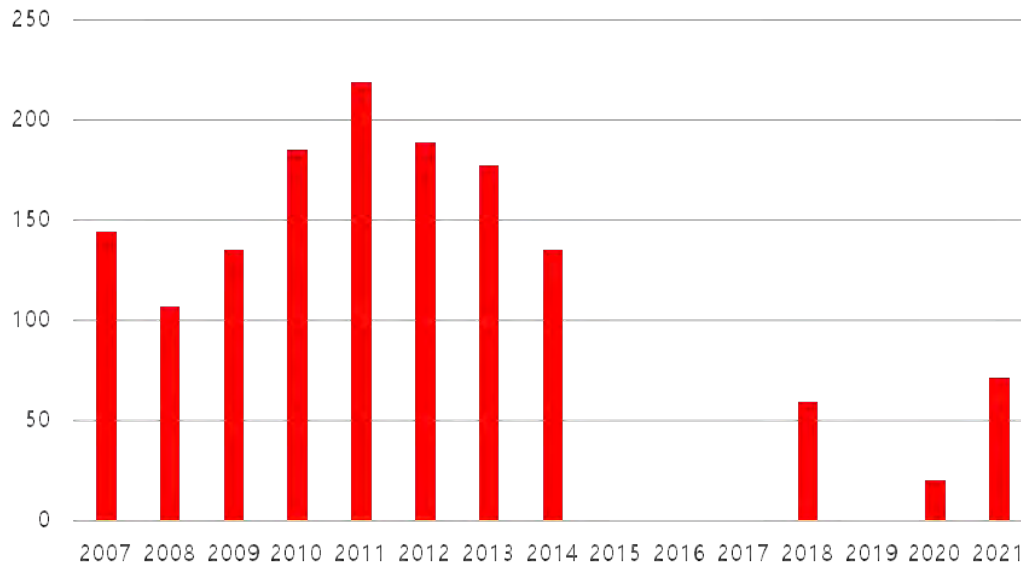
- CSNS is opening to users as normal without impact of COVID-19, and the beam power of 120 kW was tested successfully.
- CSNS-II has been approved by the center government.
- Construction of user instruments is going on smoothly.
- The MPI total scattering machine joins to users' program with the first paper published.
- Neutron School 2021 and AONSA Conference 2023 are in preparation.



# HANARO Operation Status



Reactor Operation Days

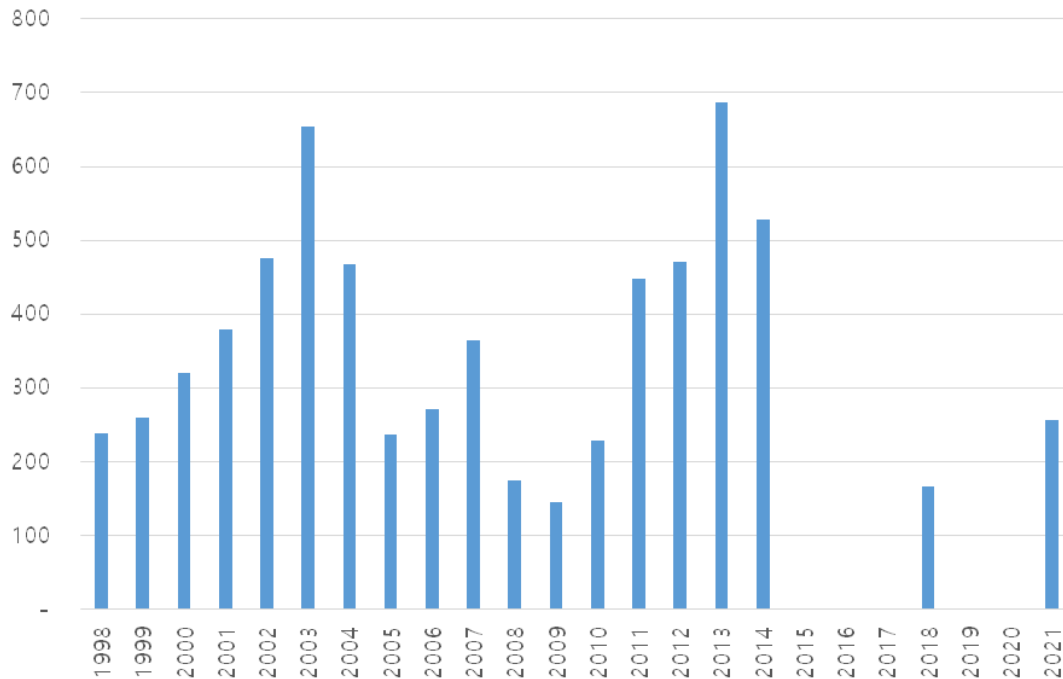


- ❑ Seismic reinforcement work was carried out from 2014 to 2017
- ❑ Normal operation was possible since 2018, but we faced another problems.
- ❑ When reactor trip occurs, we have get permission from the regulatory commission for restarting.
- ❑ Takes a lot of time to get permission to restart after a trip of the reactor
- ❑ Time to get permission : 1 month – 10 month
- ❑ It was operated relatively well and operated for a total of



# Users and Recovery of HANARO

Number of Users



- 71 days of operation is very helpful to our user society.
- 10 instruments served a total of 73 beam time proposals.
- 10 instruments are RSI, ENF(imaging), NRF(imaging), HRPD, FCD, REF-V, 40M-SANS, 18M-SANS, KIST-USANS and Cold-TAS.
- Launching an international user program in 2022 has not been decided yet.
  - > Stable operation of HANARO
  - > Covid-19

# Summary of J-PARC MLF

- ◆ Stable 700 kW operation achieved.
- Call for proposal of 2021B
  - 398 applications proposed (including muon)
  - 353 applications proposed in 2022A
- Collaborations with JRR-3 became active
- Users visit from overseas are still limited under COVID-19.
  - Preparing guidelines for remote control experiment

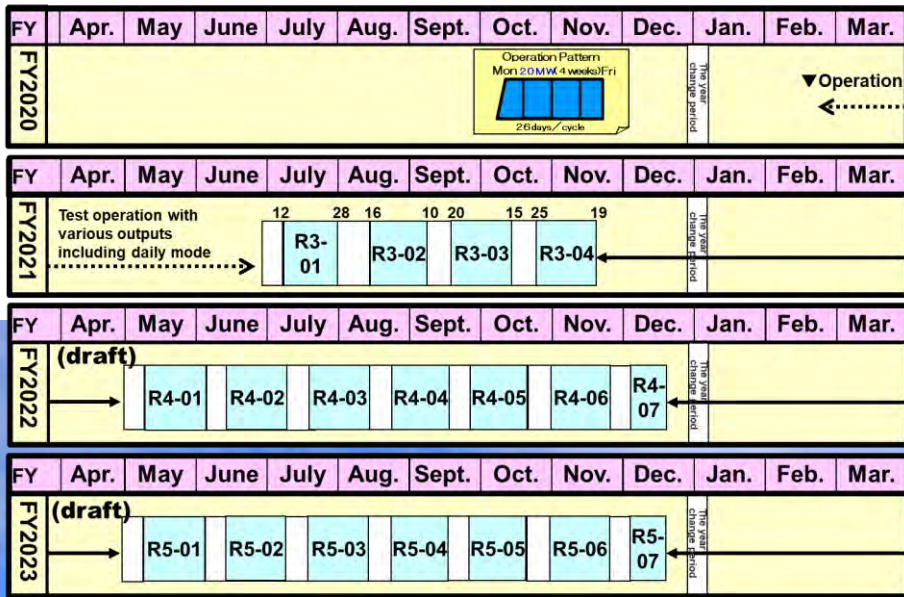
mlf info



# Status and Activities of JRR-3

*Masayasu Takeda, and Shigeru Wada (JAEA),  
Osamu Yamamuro (ISSP)*

## JRR-3 operation schedule



### JAEA

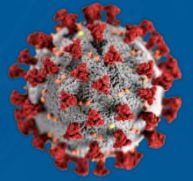
- The reactor was operated without any trouble for 95 days for user program and shutdown on 19 November for the annual safety inspection as scheduled.
- JRR-3 restarts in early May and neutrons are delivered for 180 days (seven cycles) in the next year.
- Most of approved experiments were successfully carried out even after the long shutdown.

### ISSP

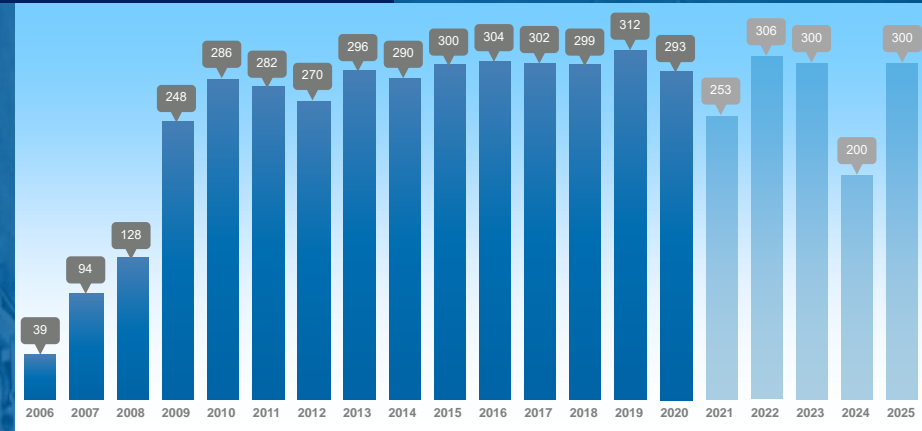
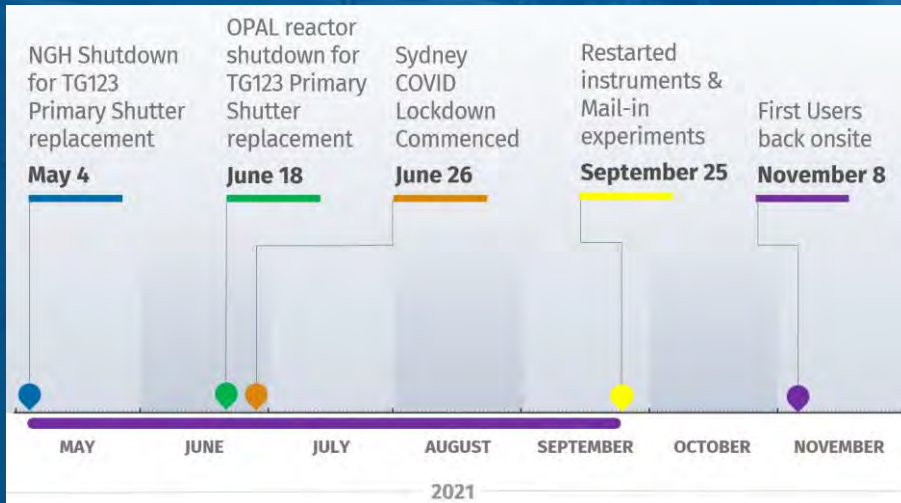
(no updated information)



# ANSTO Status Report - Jamie Schulz



- Reactor & Cold Source both have run well
- 5 month user program outage
  - 3 month outage of the Neutron Guide Hall Instruments in May for TG123 primary shutter replacement
  - Sydney COVID lockdown commenced in June
- Restarted user program late September
- Running user workshops



Scientist  
ANSTO User Meeting 2021  
24 Nov at 9.00am - 26 Nov at 5.00pm

ANSTO



Scientist  
ANSTO Small-Angle Scattering Workshop  
1 - 3 December 2021

Online event



Scientist  
Joint IAEA-ANSTO Workshop on Nuclear and Isotopic Techniques for Cultural Heritage

6 Dec at 9.00am - 9 Dec at 4.00pm

Online event - Online

# CMRR and facilities



- **CMRR run 120 days in 2021 so far (until October) ;**
- **No. of users is 53 so far in 2021;**
- **No. of papers is 52 so far, the proportion of top publications was more than 15%;**
- **Two new instruments (USANS, SESANS) are now conducting with neutron beam**

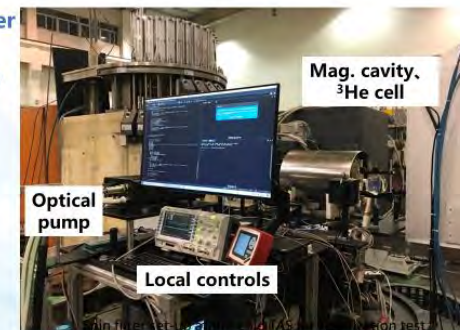


# CARR Facility Report

- Several days neutron beamtime for NS last 6 months, neutron facility construction and reactor maintenance are main work
- Final acceptance of Engineering Diffractometer, Resolution of HRPD was improved from 0.18% to 0.08%, Further progress in construction of Thermal Neutron Imaging, and new development on He3 polarizer
- Lunar soil, lunar meteorite and Sanxingdui archaeological samples have studied by NAA to trace lunar evolution and cultural heritage
- Activities in scientific meetings and tutorials for undergraduate students young scientists

## Instrument development

Helium-3 neutron spin polarizer at CARR has been developed. Online test with neutron beam is undergoing.



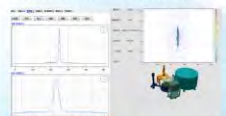
AFP: adiabatic fast passage, FID: free induction decay

## Instrument development

**Final Acceptance of Engineering Neutron Diffractometer on Sept. 18<sup>th</sup> 2021**



Testing on thick samples 200 mm Al and 60mm steel



Diffraction data by the END



A successful collaboration project with Prof. Jue ZHONG' s group from Central South University



Final acceptance meeting by NSFC



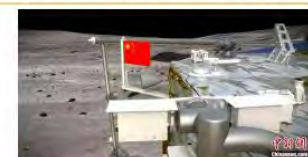
Testing the instrument on-site

## Scientific Research Progress

### Neutron Activation Analysis

Chang' E-5 lunar soil samples; lunar meteorite ;

□ Concentrations of More than 40 elements



lunar soil samples by Chang' E-5

### Sanxingdui archaeological samples

□ Concentrations of more than 40 elements  
Main elements, minor elements, trace elements



archaeological samples

**Neutron Scattering Facilities**  
**Bhabha Atomic Research Centre, Mumbai, India**

27<sup>th</sup> EC Meeting: 20 November 2021 8.30 AM

**Neutron source type:** Reactor (Dhruva)  
**Reactor Power:** 100 MW (Thermal)  
**Neutron beam instruments (operational) (12)**

**Recent scientific highlights**  
**~ 45 publications (in 2021) in journals**



Unravelling the structural hierarchy in microemulsion droplet templated dendritic fibrous nano silica, *Microporous and Mesoporous Materials* 323, 111234 (2021)

Mechanism of Na-Ion Conduction in the Highly Efficient Layered Battery Material Na<sub>2</sub>Mn<sub>3</sub>O<sub>7</sub>

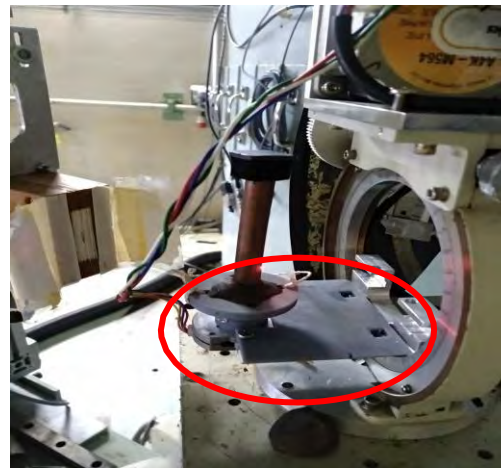
*ACS Appl. Energy Mater.* 4, 6040-6054 (2021)

Unusual Stability of Protein Molecules in the Presence of Multivalent Counterions, *Phys. Rev. E* 104, L012603(1-7) (2021)

**7<sup>th</sup> Conference on neutron scattering**  
**(25-27) November 2021 (Hybrid mode)**

NO	Samples	User
1	BAJA ODS	PRTBM-ORTN
2	LASAN SS316L FSW	PRTBM-ORTN
3	SUPERKONDUKTOR (BPSCCO DAN MgB2)	PRSM - ORIPT
4	BAJA STATOR	PRSM- ORIPT

**Texture Diff.**



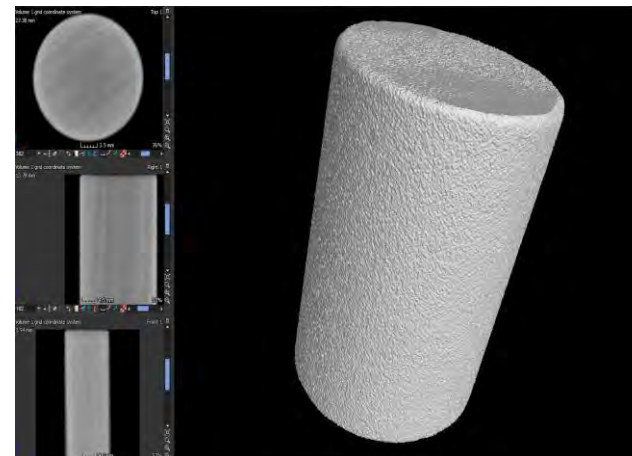
**Residual Stress Diff.**



**TAS**



**USANS**



**Radiography**

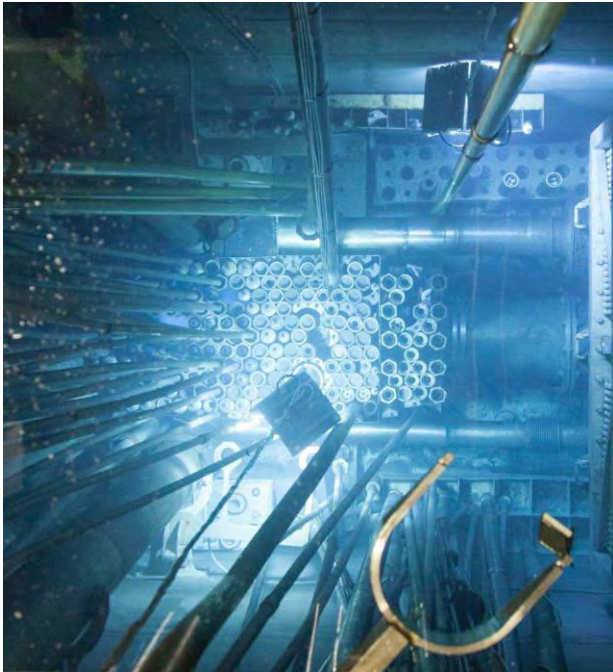


**NAA**



# 22th AONSA FDM meeting

NMSF at the reactor IVV-2M, 15 MW (Ekaterinburg, Russia)



**Ch3:** D3 Medium resolution powder diffractometer

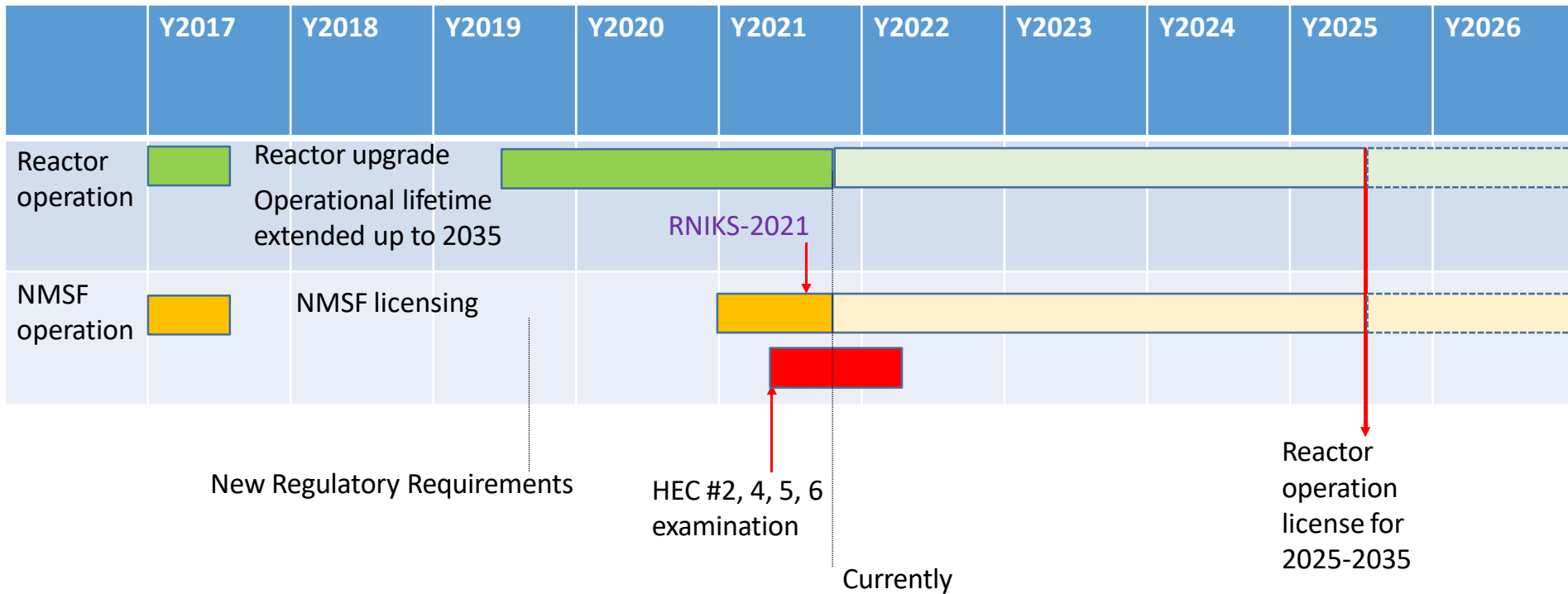
**Ch7:** D7a High resolution powder diffractometer

**Ch7:** D7b 2-axis single crystal diffractometer

Conference «Neutron Scattering in Condensed Matter Research» (RNIKS-2021)



## NMSF progress:



# AONSA business

chair

# AONSA Young Research Fellows

• 2020 :



• 2021 :



- None of the AONSA fellows have been able to visit the facilities.
- Jae-Ho/Taku reported that 2022 AONSA fellows applicants have all requested J-PARC and discussion is underway regarding J-PARC potentially hosting more than 1 fellow

# AONSA Neutron School

- Discussed the neutron school at CSNS in June 2022.
- Fangwei reported that it is planned to be a hybrid meeting. 20 international participants.
- Jamie suggested that facilities provide funding for 2 participants from their countries.
- Unclear on what the COVID restrictions will be in June and whether it is feasible for international participants to attend in person.
- Suggest making decision in January/February given visa applications etc.

Other businesses

chair

# Discussions items

- ICNS2022 in Argentina - discussed attendance by the Facility Directors. Most directors planning on attending.
- Discussed the state of neutron facilities in the world **& the neutron “drought”**
  - Maintenance shutdowns - ILL (2022), ISIS (Jul21-Feb22), NIST (2023)
  - Outages - FRM-II, IBR-2, NIST
  - PIK - 10MW - 5 instruments already commissioned
  - India - East Coast reactor approval process progressing well.

# Next Meeting & Chair

No.	Location	Date	Chair
1st	Bandung, Indonesia	19th May, 2011	Shane Kennedy (OPAL)
2nd	Tsukuba, Japan	20th November, 2011	Rob Robinson (OPAL)
3rd	Kajang, Malaysia	21st May, 2012	Kye-Hong Lee (HANARO)
4th	Beijing, China	26th October, 2012	Kye-Hong Lee (HANARO)
5th	Tokai, Japan	19th June, 2013	Kye-Hong Lee (HANARO)
6th	Guangdong, China	16th November, 2013	Kye-Hong Lee (HANARO)
7th	Daejeon, Korea	20th February, 2014	Mitsu Shibayama (JRR3)
8th	Serpong, Indonesia	15th, October, 2014	Mitsu Shibayama (JRR3)
9th	Sydney, Australia	19th July, 2015	Yuntao Liu (CARR/CIAE)
10th	Tokai, Japan	3rd December, 2015	Mitsu Shibayama (JRR3)
11th	Guangdong, China	30th May, 2016	Yuntao Liu (CARR/CIAE)
12th	Mumbai, India	17th November, 2016	Jamie Schulz (OPAL)
13th	Daejeon, Korea	8th July, 2017	Jamie Schulz (OPAL)
14th	Bangkok, Thailand	25th November, 2017	Toshi Kanaya (J-PARC MLF)
15th	Malaysia	24th June, 2018	Toshi Kanaya (J-PARC MLF)
16th	Sydney, Australia	16th November, 2018	Sungil Park (HANARO)
17th	Mianyang, China	24th May, 2019	Sungil Park (HANARO)
18th	Kenting, Taiwan	24th May, 2019	Sungil Park (HANARO)/Fangwei Wang (CSNS)
19th	Zoom	19th June, 2020	Fangwei Wang (CSNS)
20th	Zoom	27th November, 2020	Kenji Nakajima (J-PARC MLF)
21st	Zoom	25th June, 2021	Kenji Nakajima (JRR-3/J-PARC MLF)
22nd	Zoom	19th November 2021	Jamie Schulz (OPAL)
23rd			Jamie Schulz (OPAL)





# Australian Neutron Beam Users' Group

## Bringing together Australia and New Zealand's neutron beam research community

Report to AONSA

Yun Liu (ANBUG President)  
Tracy Rushmer (Past ANBUG President)

Canberra, Australia (via Zoom), November 20th, 2021

# 2021-2022 ANBUG executive committee



**President**  
Prof. Yun Liu  
ANU



**Past President**  
Prof. Tracy Rushmer  
Macquarie University



**Vice-President**  
A/Prof Chris Wensrich  
University of Newcastle



**Treasurer**  
Dr David Cortie  
ANSTO



**Secretary**  
Dr. Leonie van't Hag  
Monash University



**Website and Comms**  
Dr. Karyn Jarvis  
Swinburne University of  
Technology



**ECR member**  
Dr. Teng Lu  
ANU



**NZ Member**  
Dr. Ben Mallett  
Victoria University of Wellington

- Management
- Regular EC meeting
- Active actions on events, policy and support for users
- Working closely with ACNS/AINSE.
  
- ANBUG membership has increased to ~347 members
- **Rich advices received from Past President**
- **A very active team, especially these young EC members.**

# ANBUG's actions in second half 2021-I



## EVENTS:

- **ANBUG Town Hall I**: The OPAL Research Reactor – 20th July 2021
- ANBUG proposal writing **workshop** (double blind review) – August 2021
- The biennial ANSTO user meeting (Neutron & Synchrotron) – Online, November 2021.

## AWARENESS:

- Twitter: ANBUGneutron (≈443 followers)
- ANBUG email list (≈347)
- ANBUG Newsletters
  - o Quarterly update – Call for user success
- ACNS Scatter Maters

## AWARDS AND RECOGNITION: (23 nominations)

- Award winner decided and will be awarded at upcoming ANSTO user meeting
  - Career Award: Sustained Contribution
  - Neutron Award: Research and leadership (> 10 years post PhD)
  - Young Scientist: Outstanding research (< 10 years post PhD)
  - Technical Award (New): Outstanding service contributing to technical aspects
  - Outstanding PhD Prize

# ANSTO AUM 2021



## Involvement in organising committee and program committee



Co-chair program committee  
on behalf of ANBUG



**Vice-President**  
A/Prof Chris Wensrich,  
University of Newcastle



Dr Shinji Kihara (ECR)  
University of Auckland  
New Zealand



# Working group to organise Lecture Hall and workshop for users



**Vice-President**  
A/Prof Chris Wensrich,  
University of Newcastle



**Treasurer**  
Dr David Cortie,  
ANSTO



**NZ Member**  
Dr Ben Mallett  
University of Auckland



**ECR member**  
Dr Teng Lu  
ANU

## Routine action

- Identify the topics
- Identify the speakers and discuss the lecturing content
- Coordinate events

# ANBUG Town Hall I: The OPAL Research Reactor – 20<sup>th</sup> July 2021



**Chair**  
Dr Ben Mallett  
University of Auckland



Presented by Rodney Hall

## The OPAL Reactor

- 20 MW multi-purpose reactor facility
- Compact core with 16 LEU fuel assemblies
- Light water cooled & moderated
- D<sub>2</sub>O reflector
- 2 independent & diverse protection & shutdown systems
- Walk away safe



The OPAL research reactor at ANSTO started operation in 2006. It replaced the HIFAR research reactor which shut down in 2007, in its 50th year. This talk will provide a brief history of HIFAR and then move on to describe the OPAL reactor. This will include an overview of the operation and utilisation of OPAL including details of some of its main components and systems, and how it provides neutrons to the neutron beam experimental facilities.

# Workshop: Proposal Writing Seminar (Double blind trial) – 24<sup>th</sup> August 2021



**Workshop Chair**  
A/Prof Chris Wensrich  
**University of  
Newcastle**



**Presenter 1:**  
Dr. Therese Donlevy  
**ANSTO user office**  
*Anonymised trial and  
new portal*



**Presenter 2:**  
Ms. Karyn Wilde  
**ANSTO Deuteration**  
*Deuteration proposals*



**Presenter 3:**  
Dr. Katy Wood  
**ANSTO ACNS**  
*General proposal tips*



**Presenter 4:**  
Prof. Bruce Gaulin  
**McMaster University**  
**ANSTO PAC**  
*General proposal tips  
from hard matter  
perspective*



Video was uploaded to the ANBUG portal and has been asked about

# ANBUG's actions in second half 2021-II

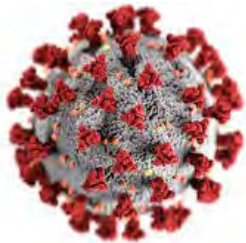


## POLICY AND GOVERNENCY:

- Involvement in the ACNS advisory committee to represent ANBUG.
- Various applications /requests for funding support to the ANBUG users, especially students and ECRs.
- Promoting women in Neutron Scattering
- Consulting to manage the backlog caused by the COVID

## USER SURVEY 2021: (42 questions, participants: 92)

- User survey has been developed in conjunction with ACNS as part of ANSTO's decadal plan
- Feedback is being sought on user experience and future instruments, resolution & capabilities
- Survey analysis and recommendation to the ACNS
- The first meeting with the ACNS to discuss the recommendation







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 (11 Nov. 2021)

635 members (including 77 students)

In addition 33 Senior members (Total of 668)

29 supporting members

## Events from the last EC meeting

### JSNS Prize Awards Nomination

### Election of council members (Nov. 2021)

### Discussion on the new research reactor at the Monju-site in Fukui

## (in planning)

The 21<sup>st</sup> Annual Meeting of the Japanese Society for Neutron Science will be held virtual December 1-3, 2021 in Kumatori, hosted by the Institute for Integrated Radiation and Nuclear Science (KURNS), Kyoto University

Meeting Chair: Prof. Masaaki Sugiyama; Program Chair: Prof. Masahiro Hino

The 5<sup>th</sup> Neutron and Muon School @ J-PARC MLF will be held on line (Dec. 6-9, 2021)

School Master: Prof. K. Kubo; Executive Committee Chair: Prof. H. Seto

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## JSNS Awards

### **The JSNS Science Prize**

Hideki Seto

Institute of Materials Structure Science / J-PARC Center  
High Energy Accelerator Research Organization (KEK)

*' Application and development of neutron scattering techniques for soft matter science research '*

### **The JSNS Technology Prize**

Takuya Hosobata and Yutaka Yamagata

Ultrahigh precision Optics Technology Team  
RIKEN Center for Advanced Photonics

*' Development of ultrahigh precision curvature metallic substrate for neutron focusing mirror '*

## JSNS Awards

### **The JSNS Young Researcher Prizes**

Takuya Okudaira

Division of Particle and Astrophysical Science, Graduate School of Science  
Department of Physics, Nagoya Univ.

*'Development and advanced research of high-performance  $^3\text{He}$  neutron spin filter at J-PARC'*

### **The JSNS Young Researcher Prizes**

Koichi Mayumi

Neutron Science Laboratory, The Institute for Solid State Physics (ISSP),  
University of Tokyo

*'Molecular structure and dynamics investigation of polyrotaxane by means of neutron scattering'*

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# 2021 Board of JSNS (Apr. 2021- Mar. 2022)

President: Kazuhisa Kakurai (CROSS)

## Members of Council (16)

### 2020-2021 fiscal year

Masahiro Hino (Kyoto Univ.)  
Yoshiaki Kiyonagi (Nagoya Univ. )  
Kenji Nakajima ( JAEA/J-PARC)  
**Yoshie Ohtake (RIKEN)**  
Taku Sato (Tohoku Univ.)  
Hideki Seto (KEK)  
Masaaki Sugiyama (Kyoto Univ.)  
Naoya Torikai (Mie Univ.)

### 2021-2022 fiscal year

**Hazuki Furukawa (Ochanomizu Univ.)**  
Takashi Kamiyama (Hokkaido Univ.)  
Takashi Kamiyama (KEK /CSNS)  
**Hiromichi Kishimoto (Sumitomo Rubber Ind.)**  
**Takuji Kume (Kao Corporation)**  
Kenji Ohyama (Ibaraki Univ.)  
Toshiya Otomo (KEK)  
Masayasu Takeda (JAEA )

Green color: Industry

Red color: Lady

### Newly elected (Nov. 2021):

#### 2022-2023 fiscal year

Taka-hisa Arima(Univ. of Tokyo)  
Masahiro Hino (Kyoto Univ.)  
Yoshiaki Kiyonagi (Nagoya Univ. )  
Kenji Nakajima ( JAEA/J-PARC)  
**Yoshie Ohtake (RIKEN)**  
Taku Sato (Tohoku Univ.)  
Hideki Seto (KEK)  
Masaaki Sugiyama (Kyoto Univ.)

## Board of Administration

### Secretary

Hitoshi Endo (KEK)  
Masato Matsuura (CROSS)

### Events Coordination

Toshiyuki Chatake (Kyoto Univ.)  
Ryoji Maruyama (J-PARC)  
Koichi Mayumi (Univ. Tokyo)

### Public-Relations

Xiang Li (Univ. Tokyo)  
Ken Morishima (Kyoto Univ.)

### Treasurer

Yohei Onodera (Kyoto Univ.)  
Yojiro Ohba (JAEA)

### Communication

Daisuke Okuyama (Tohoku Univ.)  
**Maiko Kofu (J-PARC)**

### Publication

Kazuya Kamazawa (CROSS)  
Masato Hagihala (KEK)

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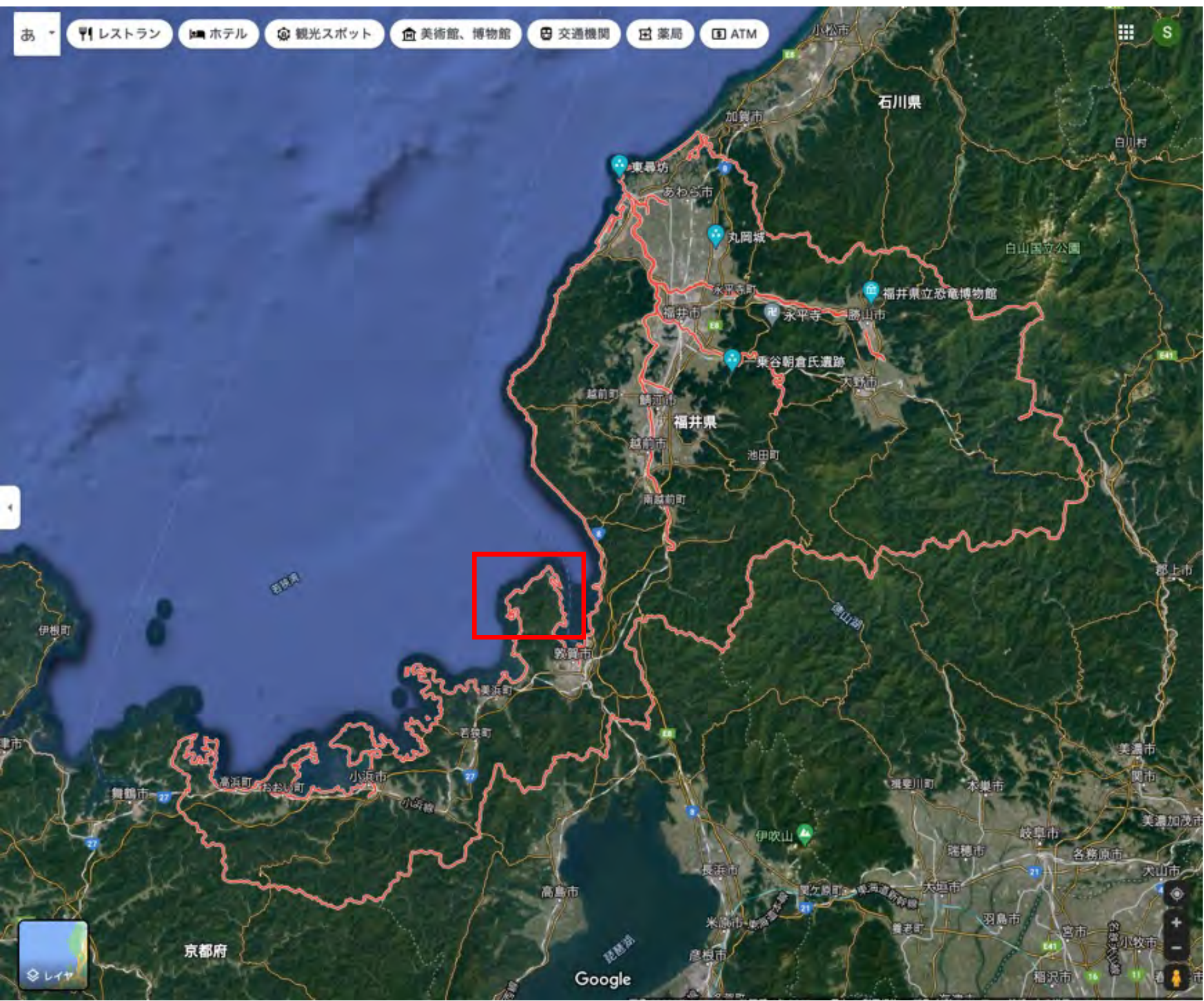
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交通機関

薬局

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美術館、博物館

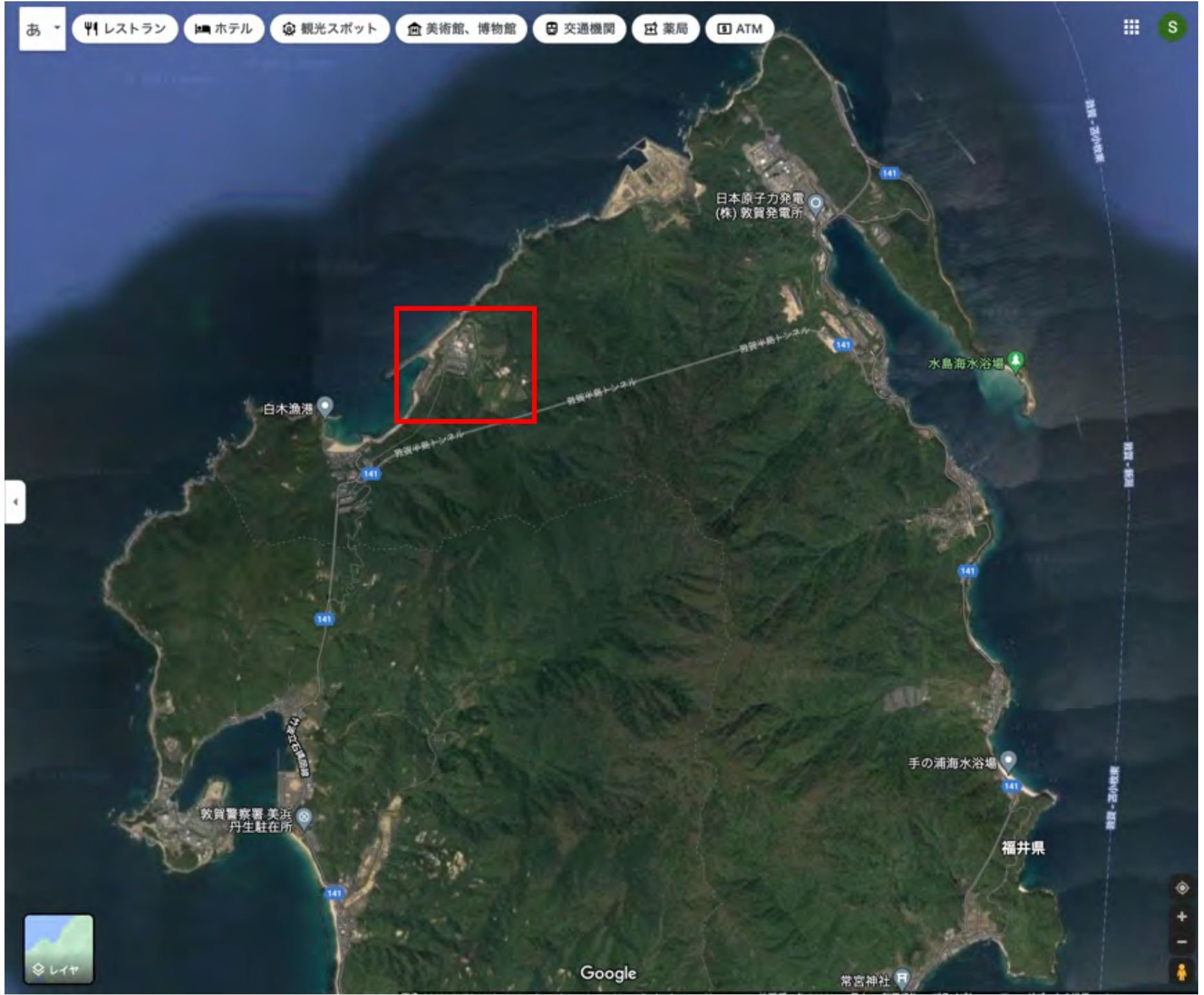
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日本原子力発電  
(株) 敦賀発電所

水島海水浴場

敦賀警察署 美浜  
丹生駐在所

手の浦海水浴場

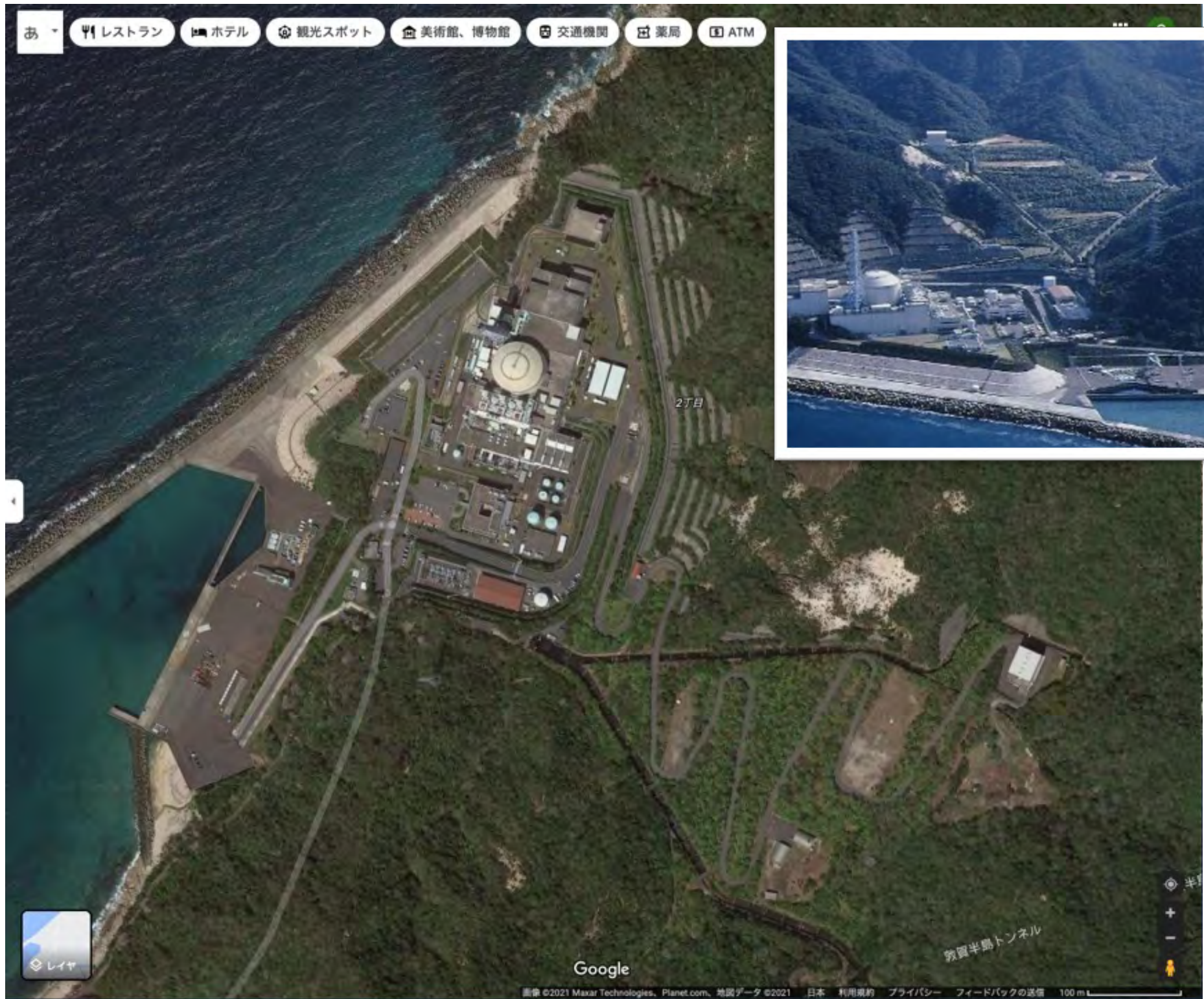
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敦賀半島トンネル

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# Report from the Korean Neutron Beam Users Association

The 27<sup>th</sup> AONSA EC meeting  
Online via ZOOM  
2021/11/20

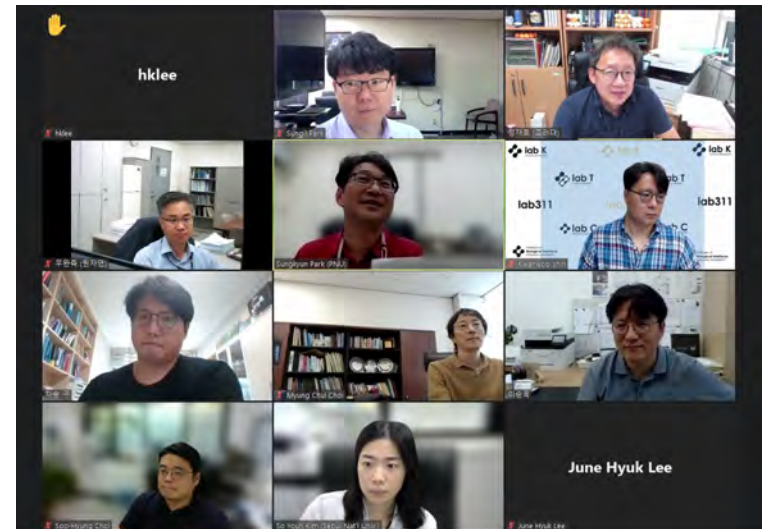


Soo-Hyung Choi (Hongik Univ.)  
Jae- Ho Chung (Korea Univ.)

# Korean Neutron Beam Users Association

## ◆ KNBUA EC Meeting & User Discussion (2021. 9. 24)

- ❑ Summarized the results of the Neutron Beam User Survey (~ 2021/05)
- ❑ Discussed and summarized the demand list of neutron beam users in South Korea to 1) Nuclear Safety and Security Commission, 2) Ministry of Science and ICT, and 3) Korea Atomic Energy Research Institute.
- ❑ Major discussions
  - ✓ Simplify and expedite the reapproval process for restarting the research reactor after reactor trips due to minor causes.
  - ✓ Secure the budget and manpower to operate the HANARO reactor for  $> 200$  days per year in accordance with the design standards.
  - ✓ Provide  $> 160$  days of user beam time per instruments per year.



# Korean Neutron Beam Users Association

## ◆ A visit to the Ministry of Science and ICT(2021. 11. 03)

- ❑ Jae-Ho Chung (Korea U) & Sungil Park (KAERI)
- ❑ Discussed KNBUA member's wishes and demands to normalize the HANARO operations
- ❑ Major demands
  - ✓ Secure the budget and manpower to operate the HANARO reactor for > 200 days per year in accordance with the design standards.
  - ✓ Work to help Korean neutron science to continue in the future

## ◆ A visit from the Korea Multi-Purpose Accelerator Complex (2021. 11. 12)

- ❑ Received their request to set up a spallation source discussion group under KNBUA.
- ❑ KNBUA will have an internal discussion about this issue.



# 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)



**Website: <http://nssi.org.in>**

**Email : [neutron@barc.gov.in](mailto:neutron@barc.gov.in)**

**Total members: 240**

## Managing Committee of Neutron Scattering Society of India (2018-2021)

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

**New Managing committee of NSSI members**

### Constitution of Task Force

A Task Force is hereby constituted for co-ordinating the utilization of various facilities in BARC by Indian University scientists and students under the UGC-DAE Consortium for Scientific Research (UGC DAE CSR) Program with the following members;

1. Dr. Ashok Arya, Head G&AMD, Materials Group
2. Dr. Mala Rao, SSPD, Physics Group
3. Dr. Raghunath Acharya, RCD , RC&I Group
4. Dr. A.K.Gupta, NPD, Physics Group

Terms of reference are as follows:

To coordinate with UGC DAE CSR, Mumbai Centre for utilization of various high end experimental facilities in BARC, such as National Facility for Neutron Beam Research (NFNBR) at Dhruva Reactor, Pelletron LINAC Facility at TIFR, FOTIA at BARC and utilization of various high end Electron Microscopes.

## Meetings on neutron scattering attended by NSSI members

Date	Details
24 June 2021	<p>Discussion meeting on “Neutron Scattering at Dhruva reactor and Prospects for the Future” organized by UGC-DAE CSR, Mumbai Centre</p> <p>Participant: Dr. Mala Rao ( talk on Spectroscopy with neutrons at Dhruva reactor)</p>
30 August- 3 September 2021	<p>Virtual Technical Meeting on Advances in Neutron Detectors for Neutron Scattering and Neutron Imaging(EVT1904273)” organized by IAEA</p> <p>Participants: Dr. Mala Rao, DR. Shraddha S Desai, Mr. Rohit Chandak</p> <p>Presented orals on Neutron Detectors for National Facility for Neutron Beam Research in India: An In-House Development and Data acquisition electronics for neutron Time of Flight spectrometer</p>



# 7<sup>th</sup> Conference on Neutron Scattering

Organized by Solid State Physics Division, Bhabha Atomic Research Centre

In Association with Neutron Scattering Society of India

25-27, November 2021 (Hybrid mode), Anushaktinagar, Mumbai, India



**Scope:** Neutron scattering is an indispensable technique for investigating structure and dynamics in condensed matter, covering a vast multidisciplinary research spectrum. Solid State Physics Division is carrying out fundamental research in the area of advance magnetism, structure and dynamics, soft matter, nanostructured materials and thin films primarily using neutron scattering facilities at Dhruva. Aim of this conference, being organized jointly with Neutron Scattering Society of India, is to discuss the recent advances in condensed matter physics research using neutron scattering and current developments on neutron instruments and facilities.

**Topics:** The conference will cover applications of the neutron scattering in the following areas:

[Magnetism and Superconductivity](#)

[Energy and Green Materials](#)

[Soft Matter and Biological Systems](#)

[Nanomaterials](#)

[Glasses and Liquids](#)

[Thin Films and Interfaces](#)

[Neutron sources and Instrumentation](#)

## Organising committee:

S. M. Yusuf, BARC, Mumbai (Chairman), President NSSI

Jitendra Bahadur, BARC, Mumbai (Scientific Secretary)

D. Pandey, BHU, Varanasi & EC member, NSSI

K. G. Suresh, IITB, Mumbai & EC member NSSI

A. Thamizhavel, TIFR, Mumbai & EC member, NSSI

S. L. Chaplot, EC member NSSI, Mumbai

R. Mukhopadhyay, EC member NSSI, Mumbai

J. A. E. Desa, Univ. of Goa, Goa & EC member NSSI

P. D. Babu, UGC-DAE CSR, Mumbai

V. K. Aswal, BARC, Mumbai

Amitabh Das, BARC, Mumbai

P.S.R. Krishna, BARC, Mumbai

S. Mitra, BARC, Mumbai

R. Mittal, BARC, Mumbai

Mala N. Rao, BARC, Mumbai

P. U. Sastry, BARC, Mumbai

Debasis Sen, BARC, Mumbai

The Organizing Committee cordially invites you to  
the inauguration of the

**7<sup>th</sup> Conference on Neutron Scattering**

by

**Dr. R. Chidambaram**

*DAE Homi Bhabha Chair Professor,*

*Former Principal Scientific Adviser, Government of India*

&

*Former Chairman, AEC*

On

**Thursday, November 25, 2021 at 10:00 hrs.**

**Venue:** Multipurpose Hall, TSH, Anushaktinagar, Mumbai



# PROGRAMME

## INAUGURAL FUNCTION

**Dr. S. M. Yusuf**

*Director, Physics Group , Bhabha Atomic Research Centre  
& President, Neutron Scattering Society of India*

: Welcome Address

**Dr. A. K. Mohanty**

*Director, Bhabha Atomic Research Centre*

: Introductory Remarks

**Dr. R. Chidambaram**

*DAE Homi Bhabha Chair Professor,  
Former Principal Scientific Adviser, Government of India  
&  
Former Chairman, AEC*

: Inaugural Address

**Dr. Jitendra Bahadur**

*Solid State Physics Division, Bhabha Atomic Research Centre*

: Vote of Thanks

**High Tea**

[Click to Join](#)



# Program overview

Day 1: November 25, 2021 (Thursday)

10:00–11:00 hrs	<b>Inauguration</b>
11:00–11:30 hrs	<b>IT1: Peter Müller-Buschbaum, Technical University of Munich, Germany</b> Next generation solar cells studied with advanced neutron scattering methods <b>Chair:</b> B. A. Dasannacharya, Mumbai, India
11:30–12:00 hrs	<b>High Tea</b>
12:00–13:30 hrs	<b>Session: Advances in Magnetism</b> <b>Chair:</b> E. V. Sampathkumaran, RRF, DAE, India
12:00–12:30 hrs	<b>IT2: Je-Geun Park, Seoul National University, Korea</b> Spin texture induced by nonmagnetic doping and spin dynamics in 2D triangular lattice antiferromagnet $h\text{-Y}(\text{Mn,Al})\text{O}_3$
12:30–13:00 hrs	<b>IT3: S. M. Yusuf, BARC, India</b> Current Activities on Low Dimensional Magnetism and Magnetization Reversal Phenomenon
13:00–13:30 hrs	<b>IT4: D. T. Adroja, ISIS facility, Rutherford Appleton Laboratory, U.K.</b> Understanding the magnetism of $\text{CeRh}_3\text{Si}_2$ through neutron and x-ray scattering
13:30–14:30 hrs	<b>Lunch</b>
14:30–17:00 hrs	<b>Session: Emerging Trends in Neutron Scattering and Structure of Advanced Materials</b> <b>Chair:</b> P. K. Pujari, BARC, India
14:30–15:00 hrs	<b>IT5: Jamie Schulz, ANSTO, Australia</b> Neutron Scattering Capabilities, Science & Opportunities for Collaboration at the OPAL Reactor
15:30–15:30 hrs	<b>IT6: Ross Stewart, ISIS facility, Rutherford Appleton Laboratory, U.K.</b> Neutron polarization analysis: an absolute need for disentangling dynamic contributions, even in 'simple' –and fundamental—systems like water
15:30–16:30 hrs	<b>SP1: Jitendra Mata, ANSTO, Australia</b> Small and Ultra Small Angle Scattering for Nano- and Micro-Structural Characterisation at ACNS, ANSTO

	<b>SP2: R. Chitra, BARC, India</b> Superprotonic conductors: Intermolecular interactions using single crystal neutron diffraction
	<b>SP3: S. D. Kaushik, UGC-DAE CSR, Mumbai, India</b> Exploring modification in physical properties of Sr doped multifunctional $\text{Ba}_3\text{NbFe}_3\text{Si}_2\text{O}_{14}$ lanagasite by neutron diffraction
	<b>SP4: Khyati Anand, IIT BHU, India</b> Meta-magnetic transition and Re-entrant cluster glass state in $\text{Tb}_2\text{CoMnO}_6$
16:30–17:00 hrs	<b>Tea</b>
17:00–19:30 hrs	<b>Session: Structure and Dynamics in Supramolecular Systems</b> <b>Chair:</b> R. Mukhopadhyay, Mumbai, India
17:00–17:30 hrs	<b>IT7: Dillip Satapathy, IIT, Chennai, India</b> Interface rigidity and topology of microemulsions: A small-angle neutron scattering and dielectric relaxation spectroscopy study
17:30–18:00 hrs	<b>IT8: Veerendra K. Sharma, BARC, India</b> Unraveling Diffusion Mechanisms in Li-based Deep Eutectic Solvents
18:00–18:30 hrs	<b>IT9: Michihiro Nagao, NIST, USA</b> Dynamics of lipid bilayers studied by neutron spin echo spectroscopy
18:30–19:30 hrs	<b>SP5: Himanshi Singh, BARC, India</b> Interaction of non-spherical micelles with nanoparticles
	<b>SP6: Sanjeev Kumar, The Maharaja Sayajirao University of Baroda, India</b> Few Criteria Governing Vesicle Formation and Morphological Changes with Oppositely Charged Mixed Gemini Surfactants: A SANS Study
	<b>SP7: Monika Jain, Sardar Vallabhbhai National Institute of Technology, India</b> pH-responsive Vesicles: A De Novo System for sustained and targeted delivery of hydrophobic drug

## Day 2: November 26, 2021 (Friday)

9:30–11:00 hrs	<b>Session: Strongly Correlated Electron Systems and Emergent Materials-I</b> <b>Chair:</b> S. M. Yusuf, BARC, India
9:30–10:00 hrs	<b>IT10: E. V. Sampathkumaran, RRF, DAE, India</b> Insight into exotic multiferroicity of $Tb_2BaNiO_5$ through neutron diffraction studies
10:00–10:30 hrs	<b>IT11: A. Sundaresan, JNCASR, India</b> Unusual Spin Density Wave and Helical Magnetic Structures in Doubly Ordered Perovskite $NaYMWO_6$ (M=Ni, Mn)
10:30–11:00 hrs	<b>IT12: Taku Sato, Tohoku University, Japan</b> Neutron diffraction study on the magnetic approximants, periodic crystalline compounds approximating quasicrystals
11:00–11:30 hrs	<b>Tea</b>
11:30–13:00 hrs	<b>Session: Strongly Correlated Electron Systems and Emergent Materials-II</b> <b>Chair:</b> V. C. Rakhecha, Mumbai, India
11:30–12:00 hrs	<b>IT13: Amit Kumar, BARC, India</b> Investigations of rare-earth (R) sublattice ordering and magnetization reversal in $RMO_3$ (M = Mn, Fe, Cr) perovskites
12:00–13:00 hrs	<b>SP8: R. Nithya, IGCAR, India</b> X-ray and Neutron diffraction studies of rock-salt ordered double perovskite oxide, $Sr_2YRuO_6$
	<b>SP9: Mily Kundu, SINP, India</b> Probing unusual magnetic interaction in $Pr_2Co_{0.86}Si_{2.88}$ through $\mu$ SR and neutron diffraction experiment
	<b>SP10: Ajay Kumar, IIT Delhi, India</b> Neutron diffraction study of $Sr_{2-x}La_xCoNbO_6$ (x=0.4, 0.6) double perovskites
	<b>SP11: A. K. Pramanik, JNU, India</b> Low Temperature Magnetic state in 3d-5d Double Perovskite $(Sr_{1-x}Ca_x)_2FeIrO_6$
13:00–14:00 hrs	<b>Lunch</b>

14:00–14:30 hrs	<b>Session: Quantum Materials</b> <b>Chair:</b> A. G. Wagh, Mumbai, India
14:00–14:15 hrs	<b>SP12: Ajaya K. Nayak, NISER, India</b> Manipulation of Topological Magnetic States in Noncollinear Magnets
14:15–14:30 hrs	<b>SP13: Shravani Chillal, HZB, Germany</b> Quantum spin liquid in a new three-dimensional lattice
14:30–15:30 hrs	NSSI lecture: B. A. Dasannacharya, Former Director, Solid State and Spectroscopy Group, BARC, Mumbai & Former Director, UGC-DAE CSR, Indore  <b>Chairs:</b> D. Pandey, IIT BHU, India and S. L. Chaplot, INSA Senior Scientist, Mumbai, India
15:30–16:30 hrs	<b>NSSI general body meeting (Only for members)</b>
16:30–17:00 hrs	<b>Tea</b>
17:00–19:30 hrs	<b>Session: Emerging Functional Materials</b> <b>Chair:</b> M. Ramanadham, Mumbai, India
17:00–17:30 hrs	<b>IT14: D. Pandey, IIT BHU, India</b> Emergent Kagome Spin Configuration with Concomitant Transverse and Longitudinal Spin-Glass Freezing in Ordered M-type Hexaferrite $BaFe_{12}O_{19}$
17:30–18:00 hrs	<b>IT15: P.S.R. Krishna, BARC, India</b> Structure of Ordered and Disordered Materials using Neutron Diffraction Facilities in BARC
18:00–18:30 hrs	<b>IT16: Amitabh Das, BARC, India</b> Neutron diffraction study of few multiferroic compounds
18:30–19:30 hrs	<b>SP14: Bholanath Pahari, Goa University, India</b> Crystal Structures and Na-Ion Diffusion Mechanisms of $Na_{3+x}Sc_2SixP_{3-x}O_{12}$ Solid Electrolytes Studied by Neutron Diffraction
	<b>SP15: Prabeer Barpanda, IISc, India</b> Magnetic Structure of $Na_2MnPO_4F$ fluorophosphate based battery material for sodium ion batteries
	<b>SP16: Atul Khanna, Guru Nanak Dev University, India</b> Structural Characterization of Tellurite Glasses, Anti-Glass and Crystalline Phases by Neutron Diffraction, High Energy X-ray Diffraction and Reverse Monte Carlo Simulations

### Day 3: November 27, 2021 (Saturday)

9:30–11:00 hrs	<b>Session: Structure and Dynamics in Mesoscopic Systems-I</b> <b>Chair: P. S. Goyal, Mumbai, India</b>
9:30–10:00 hrs	<b>IT17: H. Seto, J-PARC, Japan</b> Experimental evidence of slow mode water in the vicinity of biocompatible polymers
10:00–10:30 hrs	<b>IT18: Debasis Sen, BARC, India</b> Unravelling the Structural Hierarchy in Porous Nano structured Microgranular Materials
10:30–11:00 hrs	<b>IT19: Sugam Kumar, BARC, India</b> Multivalent Ion Induced Unusual Stability in Reentrant Charged Colloids
11:00–11:30 hrs	<b>Tea</b>
11:30–13:00 hrs	<b>Session: Structure and Dynamics in Mesoscopic Systems-II</b> <b>Chair: Vasudeva Siruguri, Mumbai, India</b>
11:30–12:00 hrs	<b>IT20: Vitaliy Pipich, JCNS, Germany</b> KWS-3 Very Small Angle Neutron Scattering Diffractometer: New Opportunities for Users
12:00–13:00 hrs	<b>SP17: Vikram Vishal, IITB, Mumbai, India</b> Resolving nanoscale pore attributes in geological reservoirs for CO <sub>2</sub> storage assessment
	<b>SP18: Pritam Deb, Tezpur University, India</b> Small Angle Scattering based investigation on an ensemble of two dimensional nanosystem and its collective magnetic behavior
	<b>SP19: Sudip Kumar Sarkar, BARC, India</b> Distinguishing spinodal mode of phase separation from nucleation-growth using complementary atom probe tomography and small angle neutron scattering techniques
	<b>SP20: Himat Bhatt, BARC, India</b> SANS and infrared absorption studies of doped Lanthanum chromite - bridging the length scales to understand structural evolution
13:00–14:00 hrs	<b>Lunch</b>
14:00–16:30 hrs	<b>Session: Trends in Bulk and Interface Phenomenon and Neutron Instrumentation</b> <b>Chair: Saibal Basu, Mumbai, India</b>
14.00–14.30 hrs	<b>IT21: P.D. Babu, UGC-DAE-CSR, India</b> Complex magnetic structure and spin glass behavior in rare-earth rich Intermetallic compound

14:30–15:00 hrs	<b>IT22: Surendra Singh, BARC, India</b> Realization of magnetic helical structure along the thickness of a compensated Gd/Co multilayer
15:00–15:30 hrs	<b>IT23: Tushar Roy, BARC, India</b> Basics of Neutron Imaging and its Applications
15:30–16:30 hrs	<b>SP21: Sohrab Abbas, BARC, India</b> Design and Development of New Neutron Guides at Dhruva
	<b>SP22: Shraddha S. Desai, BARC, India</b> Upgradation of Neutron Scattering Instruments at Dhruva Reactor Using In-House Developed Neutron Detectors
	<b>SP23: Deepak, BARC, India</b> Probing of Multiple Magnetic Transitions in ErFe <sub>0.5</sub> Co <sub>0.5</sub> O <sub>3</sub> Compound using Neutron Diffraction
	<b>SP24: Yasmeen Jafri, Amity University, India</b> Study of ferromagnetic films interfaced/alloyed with heavy metals using polarised neutron reflectivity
16:30–17:00 hrs	<b>Tea</b>
17:00–19:30 hrs	<b>Session: Dynamics in Functional Materials/ab-initio modelling</b> <b>Chair: S. L. Chaplot, INSA Senior Scientist, Mumbai, India</b>
17:00–17:30 hrs	<b>IT24: Mayanak Gupta, BARC, India</b> Ion Dynamics in solid Ionic conductors: A Perspective from Neutron Scattering Experiments and Ab-initio Simulations
17:30–18:00 hrs	<b>IT25: A. I. Kolesnikov, ORNL, USA</b> Neutron Scattering Study of Vibrational Dynamics and Tunneling of Confined Water
18:00–19:00 hrs	<b>SP25: Dipanshu Bansal, IITB, Mumbai, India</b> Probing quasi-particle coupling of energy materials using inelastic neutron scattering and first-principles simulations
	<b>SP26: Premakumar Yanda, JNCASR, India</b> Magnetic-field-induced ferroelectric states in centrosymmetric R <sub>2</sub> BaCuO <sub>5</sub> (R = Dy and Ho)
	<b>SP27: Sajjan Kumar, BARC, India</b> Fast Cu diffusion in Cu <sub>2</sub> Se: An inelastic neutron scattering and simulation investigation
19:00–19:30 hrs	<b>Concluding remarks</b>

NSSI lecture: B. A. Dasannacharya, Former Director, Solid State and Spectroscopy Group, BARC, Mumbai & Former Director, UGC-DAE CSR, Indore



On

**26 November, 2021 at 14.30 to 15.30 hrs (IST)**

## **Memories of Neutron Scattering in India**

### **Abstract**

*The present talk will be a recollection of some of the occasions in my growth as a practitioner of neutron scattering. They will include ( i ) first measurement of neutron diffraction in  $\text{FeSn}_2$  ( ii ) first measurement of a phonon at Trombay ( iii ) high resolution neutron scattering by liquid methane ( iv ) use of filter spectrometer to measure high energy phonons leading to a proof of non-central forces in Be ( v ) starting SANS ( vi ) design of beam tubes for Dhruva and ( vii ) introduction of high throughput, high resolution neutron instruments at Dhruva.*

**Thank You**



# 27<sup>th</sup> AONSA

# EC Meeting

**TWNSS Activity Report 2021/11/19**

*Chun-Chuen Yang, TWNSS President*



# TWNSS 2021 annual meeting (11/19-20, 2021)



**2021**  
**TWNSS Annual Meeting and Symposium for Neutron Scattering**

**Plenary Speaker :**




Prof. Wen-Hsien Li Dr. Tsu-Mu Kao

**Keynote Speaker:**

Prof. Chih-Ming Lin Prof. Ya-Sen Sun  
 Prof. Hsiung Chou Prof. Yan-Ling Yang  
 Prof. Chao-Hung Du Dr. Wei-Tin Chen  
 Dr. Tzu-Yen Huang Dr. Shinichiro Yano  
 Dr. Lee How-Ming Dr. Bradley Manley

Chairman : Chun-Chuen Yang  
 (TWNSS president, CYCU)  
 Committee: Prof. Hsiung Chou (NSYSU)  
 Prof. Che-Yi Chu (NCHU)  
 Dr. Shiaw-Huei Chen (INER)  
 Dr. U-Ser Jeng (NSRRC)  
 Dr. Wei-Tsung Chuang (NSRRC)  
 Prof. Lin-Xiu Ye (NYUST)

**DATE:**  
 2021/11/19-20  
**Venue**  
 City Suit - Chenai/NSYSU, TAIWAN

**Registration: (Online)**  
 2021/10/19 - 2021/10/31  
**Registration Fee :**  
 Student: NTD1000, General : NTD2000  
**Remittance:**  
 Name:TWNSS  
 Bank: Bank SinoPac  
 AccountNumber:044-018-0009116-1  
 Mobile:0928221206 Chun-Chuen  
 E-Mail:twncs2021@gmail.com  
**Official Website:**  
<https://reurl.cc/l57mka>





## 最新公告 (Announcement)

2021/11/19 - 公告10 (Announcement 10)

議程更新 (Renew Schedule)

We invite Dr. Mark Robert Johnson (ILL) to talk about the opportunities for science and innovation at ILL.

13:30-14:00	周雄 (Hsiung Chou) 中山物理/Department of Physics, NSYSU Invited Talk V	黃子晏 (Tzu-Yen Huang) 同步輻射/NSRRC Invited Talk VII	
14:00-14:30	梁喻惠 (Yu-Hui Liang) 淡江物理/Department of Physics, TKU Contributed Talk III	Bradley W. Manley 同步輻射/NSRRC Invited Talk	
14:30-14:40	Move to Main Conference Hall		
14:40-15:00	Dr. Mark Robert Johnson (ILL)	Taiwan@ILL	Special Events
15:00-15:40	Break		



ILL UK Associate Director and Head of Science  
 ex-Science Director@ILL Grenoble

TWNSS	Host Matter	Host Matter	Host Matter
09:10-09:50	中央研究院/Department of Physics, NCU Plenary Talk II	李文顯 (Wen-Hsien Li)	
09:50-10:20	林昭賢 (Chao-Hung Du) 淡江物理/Department of Physics, TKU Invited Talk III	孫亞輝 (Ya-Sen Sun) 中央化學系/Department of Chemical and Materials Engineering, TKU Invited Talk IV	
10:20-10:40	Break		
10:40-12:00	Poster Session		理監事會議/Board Meeting
12:00-12:30	Lunch		
13:30-14:00	周雄 (Hsiung Chou) 中山物理/Department of Physics, NSYSU Invited Talk V	黃子晏 (Tzu-Yen Huang) 同步輻射/NSRRC Invited Talk VII	
14:00-14:30	梁喻惠 (Yu-Hui Liang) 淡江物理/Department of Physics, TKU Contributed Talk III	Bradley W. Manley 同步輻射/NSRRC Invited Talk	
14:30-14:40	Move to Main Conference Hall		
14:40-15:00	Dr. Mark Robert Johnson (ILL)	Taiwan@ILL	Special Events
15:00-15:40	Break		
Special Topics - The Application of Machine Learning in Neutron Scattering			
15:40-16:20	楊景雲 (Yao-Jing Yang) 淡江化工系/Department of Chemical and Materials Engineering, TKU Plenary Talk IV		Machine Learning
16:20-16:40	黃文斌 (Wen-Bin Huang) 淡江材料系/Department of Materials Science and Engineering, TKU		Machine Learning
16:40-18:00	頒獎 / Closing Remark		
18:00 ~	歡送 Farewell		

<https://sites.google.com/view/twnss2021>





# TWNSS 2021 annual meeting (11/19-20, 2021)

## Four major topics:

1. The 70 MeV **medium-sized cyclotron project** planned by the Institute of Nuclear Energy Research (INER).
2. Neutron scattering in **material science research**.
3. The **special commemorates** the pioneering contribution of **Professor Sow-Hsin Chen** in the early development of neutron scattering.
4. Solve the neutron scattering problems by **machine learning**.

# TWNSS 2021 annual meeting (11/19-20, 2021)

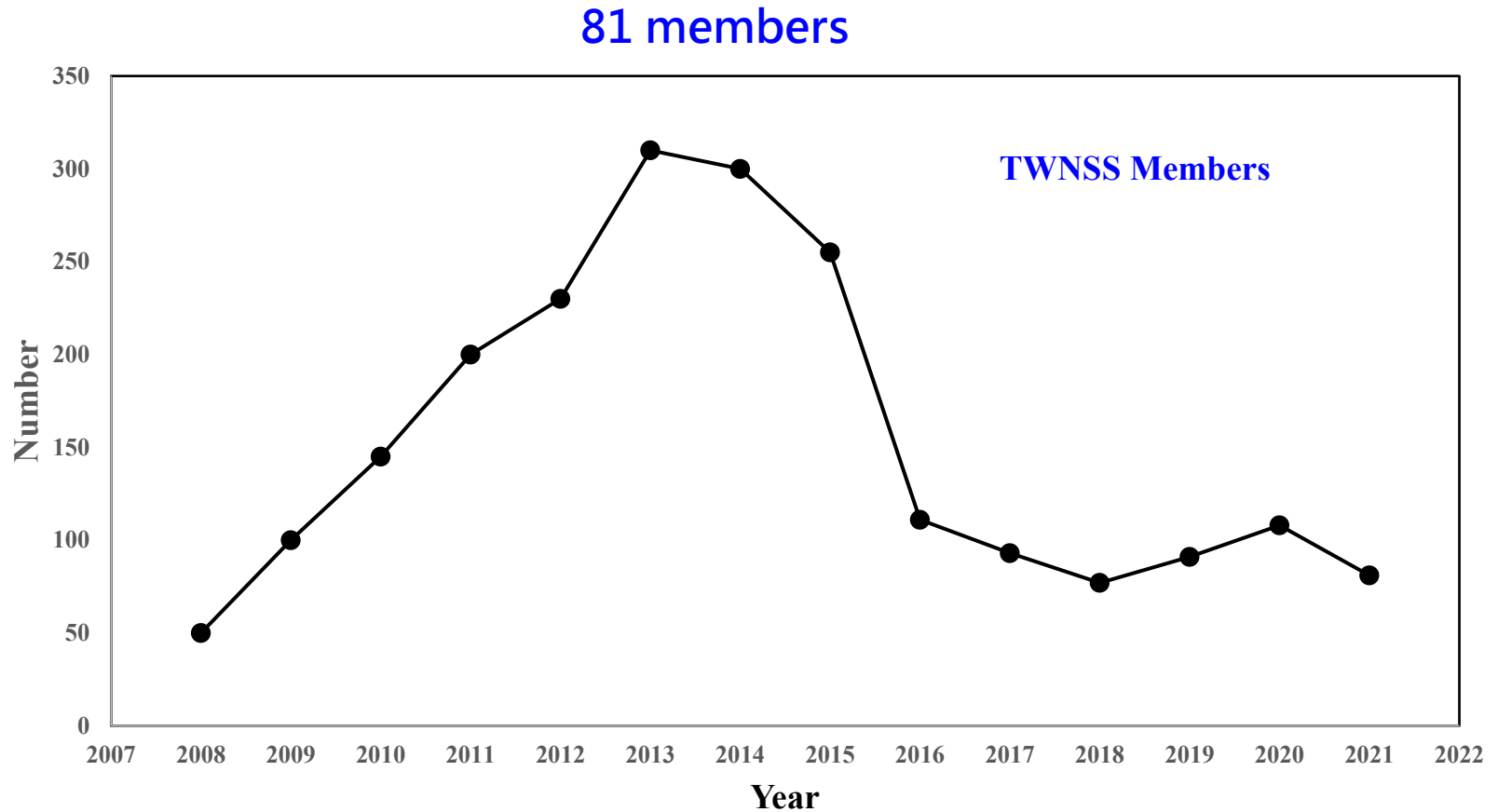
## Opportunities for science and innovation at ILL

### ILL BUSINESS MODEL – SCIENTIFIC MEMBERS

- Are part of the governance structure of ILL: proposal sub-committees, Scientific Council, Scientific Member meetings, Steering Committee
- Have access to ILL training programmes – student placements, PhD programme
- Can contribute to instrumentation and technical developments e.g. on Collaborating Research Group instruments



# TWNSS 2021 annual meeting (11/19-20, 2021)



# Renew TWNSS Website

台灣中子科學學會/TWNSS

首頁/Home 學會簡介/About TWNSS 學會公告/Announcement 最新動態



## 台灣中子科學學會 Taiwan Neutron Science Society

最新消息 / Latest News 瀏覽人次/Page Views 010318

2021/06/21 台灣中子散射實驗設施之應用推廣及用戶培育計畫/Promotion of the Application for Taiwan Neutron Scattering Facility and User Cultivation Project

Dear NSRRC and neutron users,

The MOST "Taiwan Neutron Scattering Experimental Facility Application Promotion and User Nurturing Program" 2021 Phase II Neutron Project online application is extended to 24:00 on July 04,

台灣中子科學學會/TWNSS

首頁/Home 學會簡介/About TWNSS 學會公告/Announcement 中子科學/Neutron Science 研討會/Conference 更多資訊

## 第七屆 / The 7th members (2020/10/15 ~2022/10/14)



理事長 楊仲準  
中原大學物理學系  
President, Prof. Chun-Chuen Yang



副理事長 楊小青  
輔仁大學化學系  
Vice-President, Prof. Hsiao-Ching Yang



秘書長 朱哲毅  
中興大學化學工程學系  
Secretary General, Prof. Che-Yi Chu

台灣中子科學學會/TWNSS

首頁/Home 學會簡介/About TWNSS 學會公告/Announcement 中子科學/Neutron Science 研討會/Conference 理事會/Board

## 學會會刊/Bulletin of TWNSS

Next Release Date : August 2021

名稱/Name & 出版日期/Release Date	瀏覽/View / 下載/Download
【TWNSS Newsletter】第7卷第1期 2020/08/01	TWNSS-Newsletter_第7卷第1期_20200801.pdf
【TWNSS Newsletter】第6卷第2期 2019/08/01	TWNSS-Newsletter_第6卷第2期_20190801.pdf
【TWNSS Newsletter】第6卷第1期 2019/01/01	TWNSS-Newsletter_第6卷第1期_20190101.pdf
【TWNSS Newsletter】第5卷第1期 2017/12/01	TWNSS-Newsletter_第5卷第1期_20171201.pdf
【TWNSS Newsletter】第4卷第1期 2015/03/23	TWNSS-Newsletter_第4卷第1期_20150323.pdf
【TWNSS Newsletter】第3卷第2期 2014/10/05	TWNSS-Newsletter_第3卷第2期_20141005.pdf



<https://www.twNSS.org.tw/>

# Publications of TWNSS members (2021)

1. Boosting Oxygen Reduction Activity and Enhancing Stability through Structural Transformation of Layered Lithium Manganese Oxide, Xuepeng Zhong, M'hamed Oubla, Xiao Wang, Zeng Huiyan, Yangyang Huang, Shaofei Wang, Kun Liu, Jian Zhou, Lunhua He, Haihong Zhong, Nicolas Alonso Vante, Chin-Wei Wang, Wen-Bin Wu, Hong-Ji Lin, Chien-Te Chen, Zhiwei Hu, Yunhui Huang, Jiwei Ma, Nature Communications 12, 3136 (2021). ANSTO (IF=12.121)
2. Magnetic structures and spin reorientation in the B-site disordered perovskite  $\text{PrFe}_{0.5}\text{Cr}_{0.5}\text{O}_3$ , Chin-Wei Wang, Yu-Hui Liang, En-Pei Liu, Andrew J. Studer, W. T. Chen, and Chao-Hung Du\*, Journal of Magnetism and Magnetic Materials 538, 168273 (2021) ANSTO (IF=2.717)
3. In vitro study of doxorubicin-loaded thermo- and pH-tunable carriers for targeted drug delivery to liver cancer cells, Sikhumbuzo Charles Kunene, Kuen-Song Lin\*, Meng-Tzu Weng\*, Maria Janin, Carrera Espinoz, Chun-Ming Wu, Journal of Industrial and Engineering Chemistry 104, 93-105 (2021). ANSTO (IF=5.278)
4. Flower-like Micelles of Polyethylene Oxide End-Capped with Cholesterol Behrad Kangarlou, Rasika Dahanayake, Ian J. Martin, Dennis Ndaya, Chun-Ming Wu, Rajeswari M. Kasi,\* Elena E. Dormidontova,\* and Mu-Ping Nieh\* Macromolecules 54, 8960-8970 (2021) ANSTO (IF=5.918)
5. Understanding the correlation between orbital degree of freedom, lattice-striction and magneto-dielectric coupling in ferrimagnetic  $\text{Mn}_{1.5}\text{Cr}_{1.5}\text{O}_4$ , Gopeshwar Dhar Dhar Dwivedi, Sagarmal Kumawat, Peter Tsung-Wen Yen, Chin-Wei Wang, K Devi Chandrasekhar, Amish G. Joshi, Hung-Duen Yang, Shin-Ming Huang, Hsiung Chou, J. Phys.: Condens. Matter. 33, 505802 (2021) ANSTO (IF=2.332)
6. Commensurate and incommensurate magnetic structure of moderately frustrated antiferromagnet  $\text{Li}_2\text{M}(\text{WO}_4)_2$ ,  $\text{M} = \text{Co}, \text{Ni}$ , Sunil K. Karna\*, C. W. Wang\*, R. Sankar, D. Temple, and M. Avdeev, Phys. Rev. B 104, 134435 (2021). ANSTO (IF=3.575)
7. Striping of orbital-order with charge-disorder in optimally doped manganites, Wei-Tin Chen, Chin-Wei Wang, Ching-Chia Cheng, Yu-Chun Chuang, Arkadiy Simonov, Nicholas C. Bristowe, Mark S. Senn, Nat. Commun. 12, 6319 (2021) ANSTO (IF=12.121)
8. Diatom-inspired self-assembly for silica thin sheets of perpendicular nanochannels, Yi-Qi Yeh, Chun-Jen Su, Chen-An Wang, Ying-Chu Lai, Chih-Yuan Tang, Zhenyu Di, Henrich Frielinghaus, An-Chung Su, U-Ser Jeng, Chung-Yuan Mou, J. Colloid Interf. Sci. 584, 647-659 (2021) MLZ (IF=7.489)
9. Distributions of Deuterates Polystyrene Chains in Perforated Layers of Blend Films of a Symmetric Polystyrene-block-poly(methyl methacrylate), Jia-Wen Hong, Yi-Qing Jian, Yim-Ping Liao, Hsiang-Ho Hung, Tze-Yen Huang, Andrew Nelson, I-Yu Tsao, Chun-Ming Wu, Ya-Sen Sun\*, Langmuir 37, 13046-13058 (2021) ANSTO (IF=3.882) ANSTO (IF=3.882)

***Thank you for your  
Attention!***

## A brief report from the Russian neutron society (ROSNEUTRO)

A.F. Gubkin

*M.N. Mikheev Institute of metal physics, Ekaterinburg, Russia*

*Institute of nuclear materials, SC Rosatom*



New president of the  
Russian neutron society



RUSSIAN  
NEUTRON  
SOCIETY

[www.rosneutro.ru](http://www.rosneutro.ru)



271 members

Since November 2021:

## New Rosneutro team

- President: Dr. A.F. Gubkin, MIMP
- Vice President: Dr. E.A. Kravtsov, MIMP
- Secretary: Dr. N.V. Proskurnina, MIMP

## New Executive committee

To be assigned



RUSSIAN  
NEUTRON  
SOCIETY

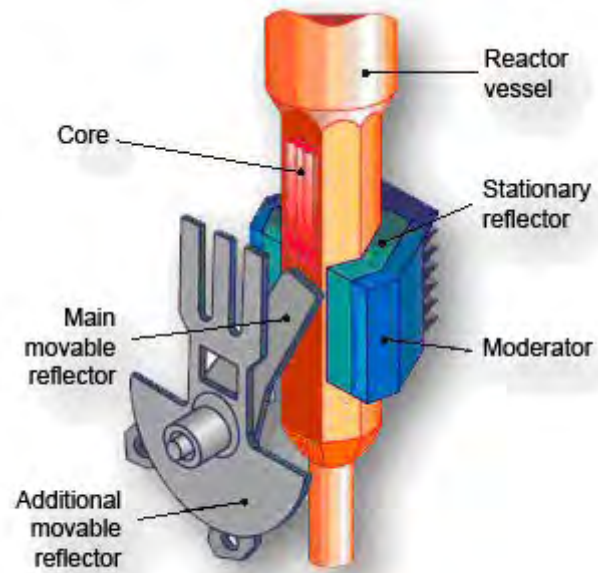


I. JINR, Dubna IBR-2, 1984 / 2012, 2 MW	15 instruments TOF-technique	<b>Temporarily shut down</b>
II. NRCKI, Moscow IR-8, 1957 / 1981, 8 MW	6 instruments $\lambda = \text{const}$	<b>operating</b>
III. IMP, Yekaterinburg IVV-2M, 1966 / 1982, 15 MW	3 instruments $\lambda = \text{const}$	<b>operating</b>

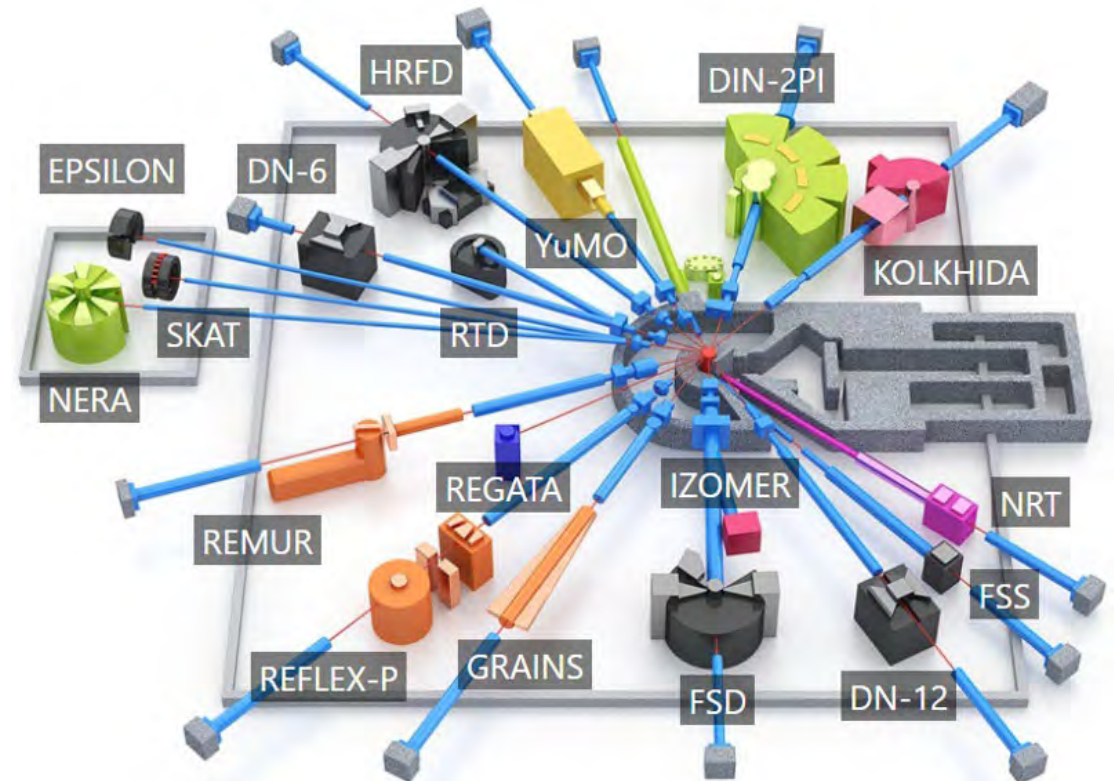
## Ongoing commissioning

IV. PNPI, Gatchina PIK 100 MW	5 instruments have been commissioned 10 instruments are under construction
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## IBR-2 (2MW) pulse type reactor, JINR, Dubna



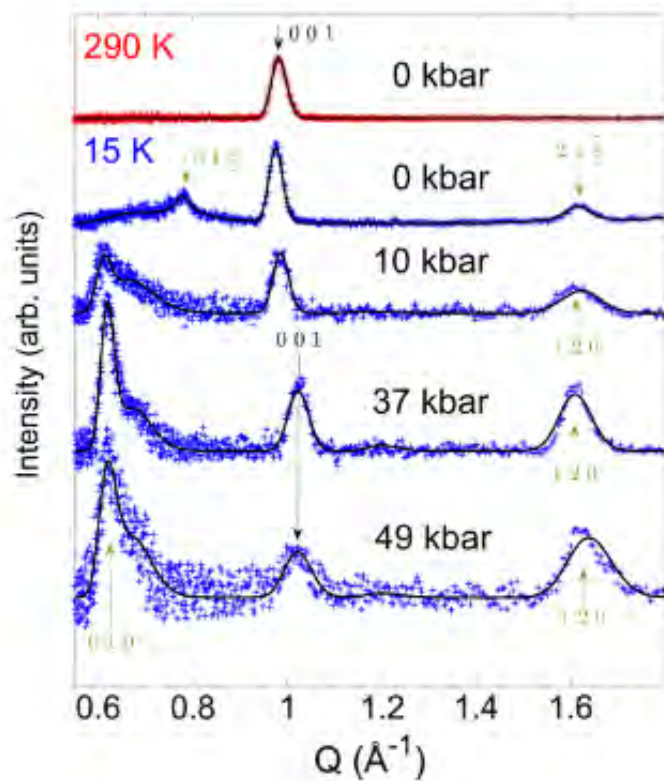
Liquid sodium leakage was found in October 2021, IBR-2 reactor was temporarily shut down. Air cooled heat exchangers will be replaced. Resume of operation: [September 2023](#)



IBR-2 Experimental hall

- All experiments scheduled in the end of 2021 and in 2022 were canceled
- Rosneuro EC emergency meeting is planned next week

## DN-12, IBR-2, JINR, Dubna

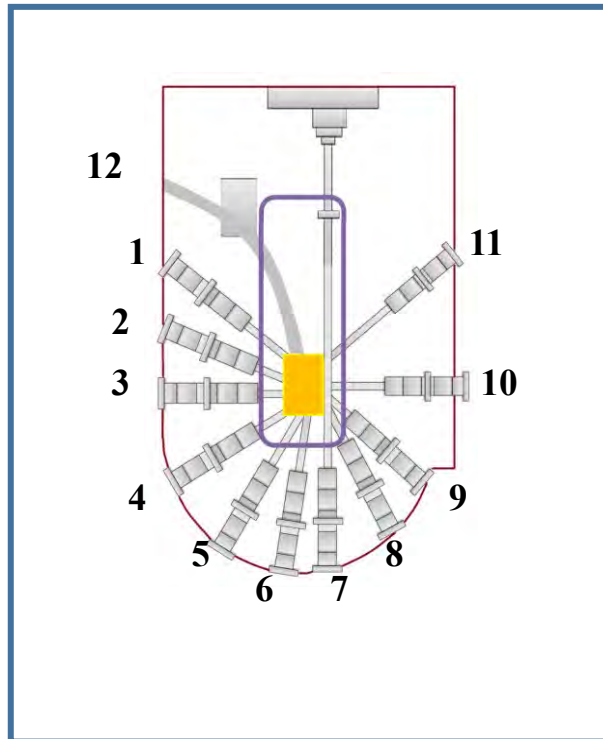


“Emergent Magnetic Phases in Pressure-Tuned van der Waals Antiferromagnet FePS<sub>3</sub>”

Matthew J. Coak et al PHYSICAL REVIEW X 11, 011024 (2021)

IBR-2 Experimental hall

12 horizontal experimental channels (HEC)  
18 vertical experimental channels (VEC)



**Commissioning:**

1957 - IRT-1000 (1MW)

1981 - (reconstruction) – IR-8

## IR-8 Experimental hall

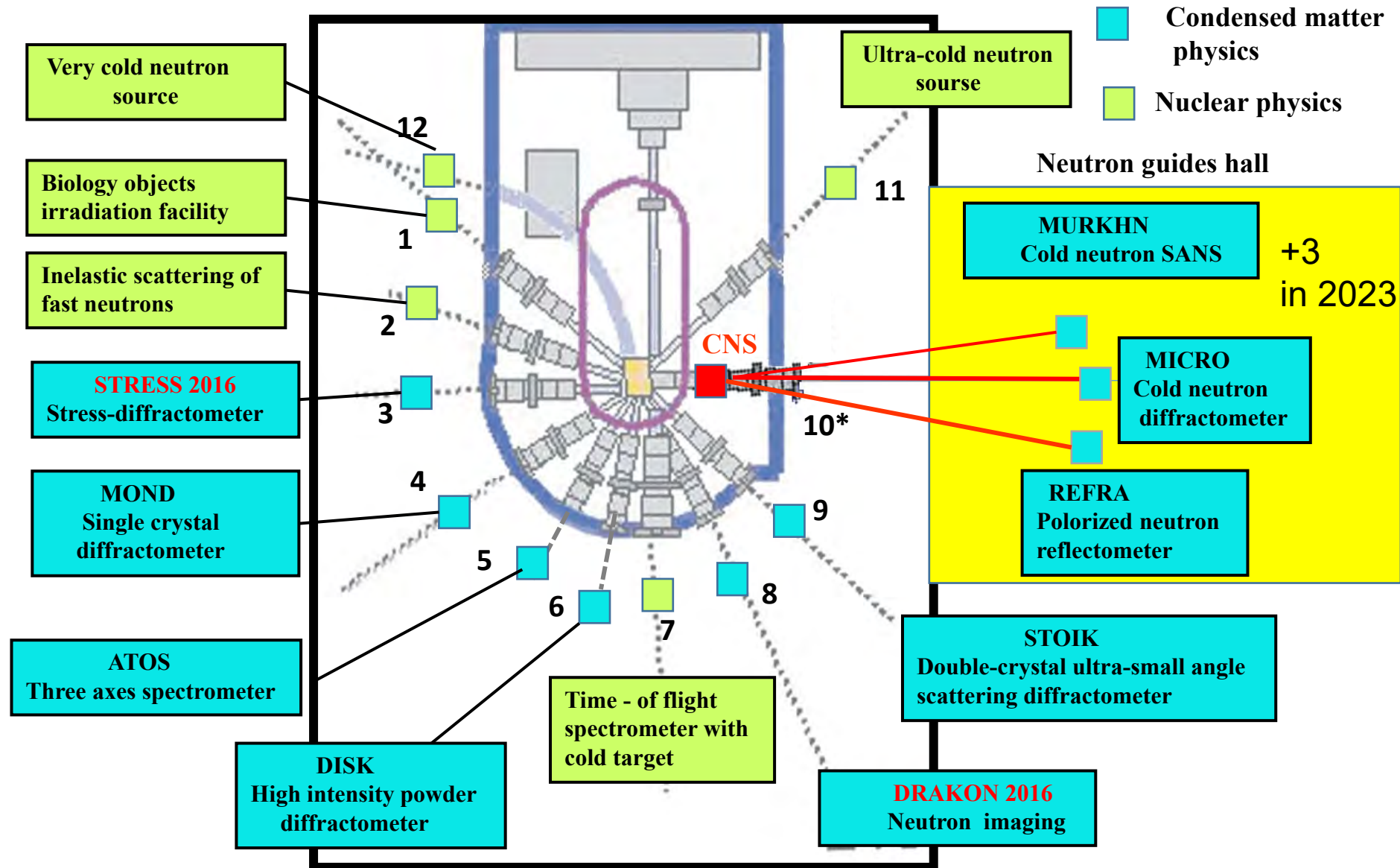


**Type:** Water-water, pool

**$P_{max} = 8 \text{ MW}$**

**$F_t \text{ max} \sim 2 \times 10^{14} \text{ s}^{-1} \text{ cm}^{-2}$  (Be reflector)**

**$F_t \sim 1 \times 10^{10} \text{ s}^{-1} \text{ cm}^{-2}$  (HEC outlet).**



## REVIEWS

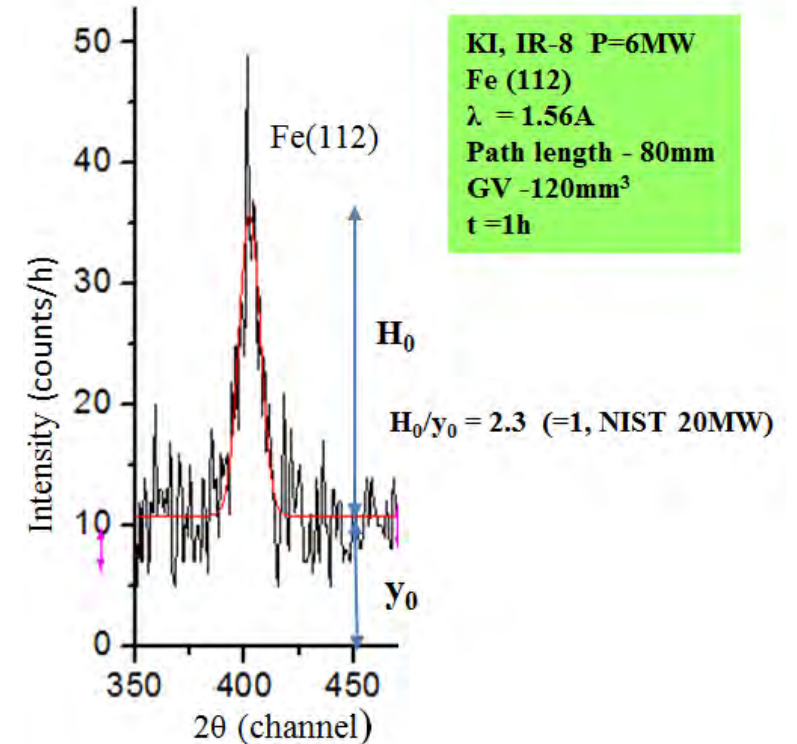
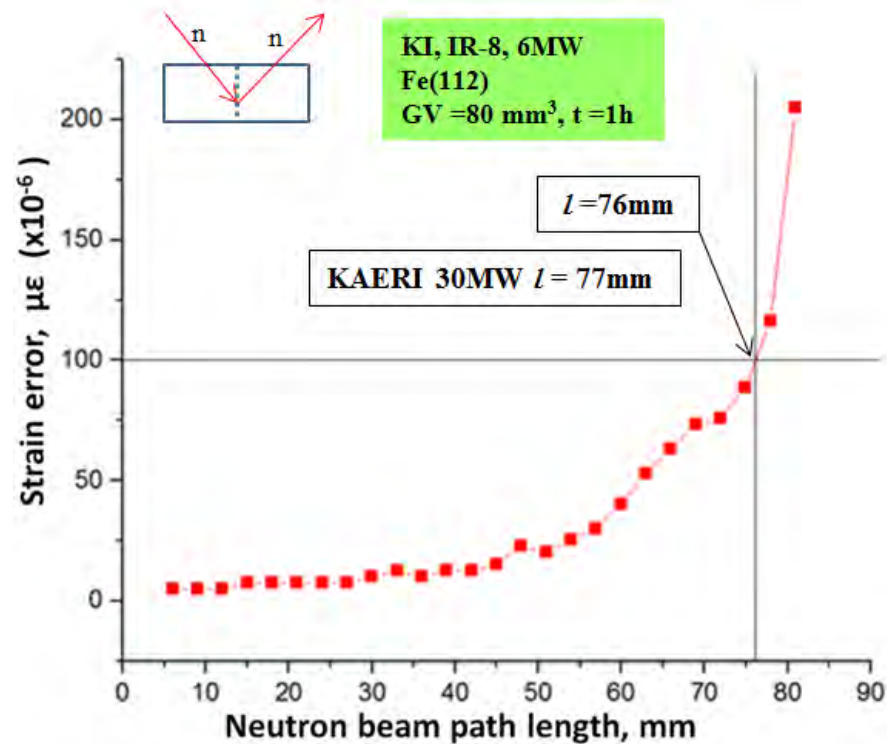
### Neutron Study of Internal Stress in Materials and Components

V. T. Em<sup>a,\*</sup>

<sup>a</sup> National Research Centre “Kurchatov Institute,” Moscow, 123182 Russia

\*e-mail: Em\_VT@nrcki.ru

**STRESS (Commissioned in 2016)**



## NMSF at the IVV-2M, 15 MW

Started operation in 2021 after ~4 years outage

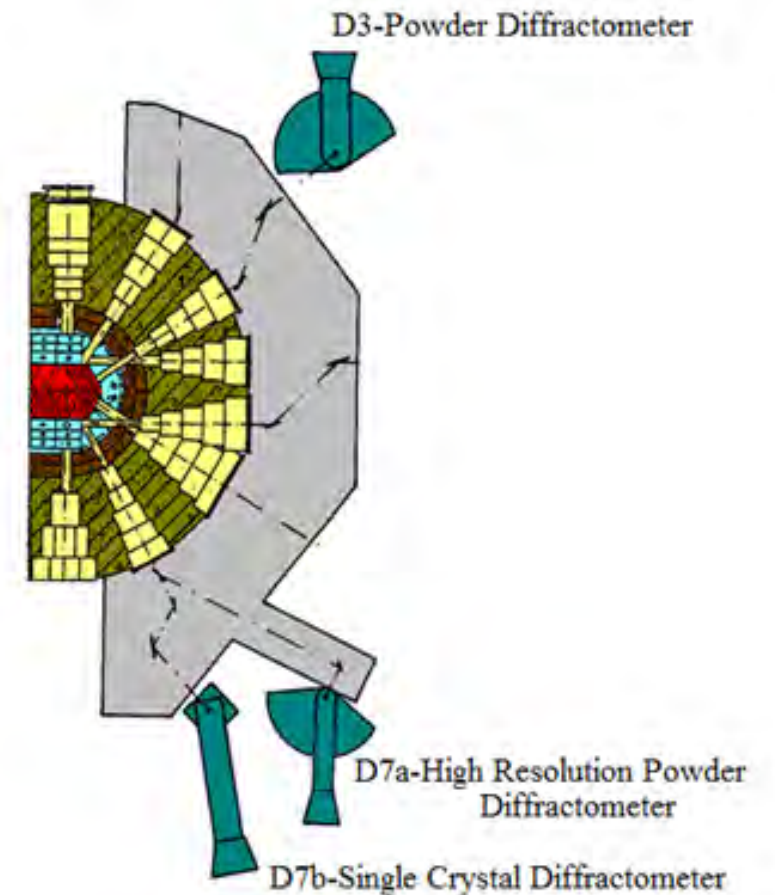
In 2021:

70% of beamtime were allocated for academic proposals

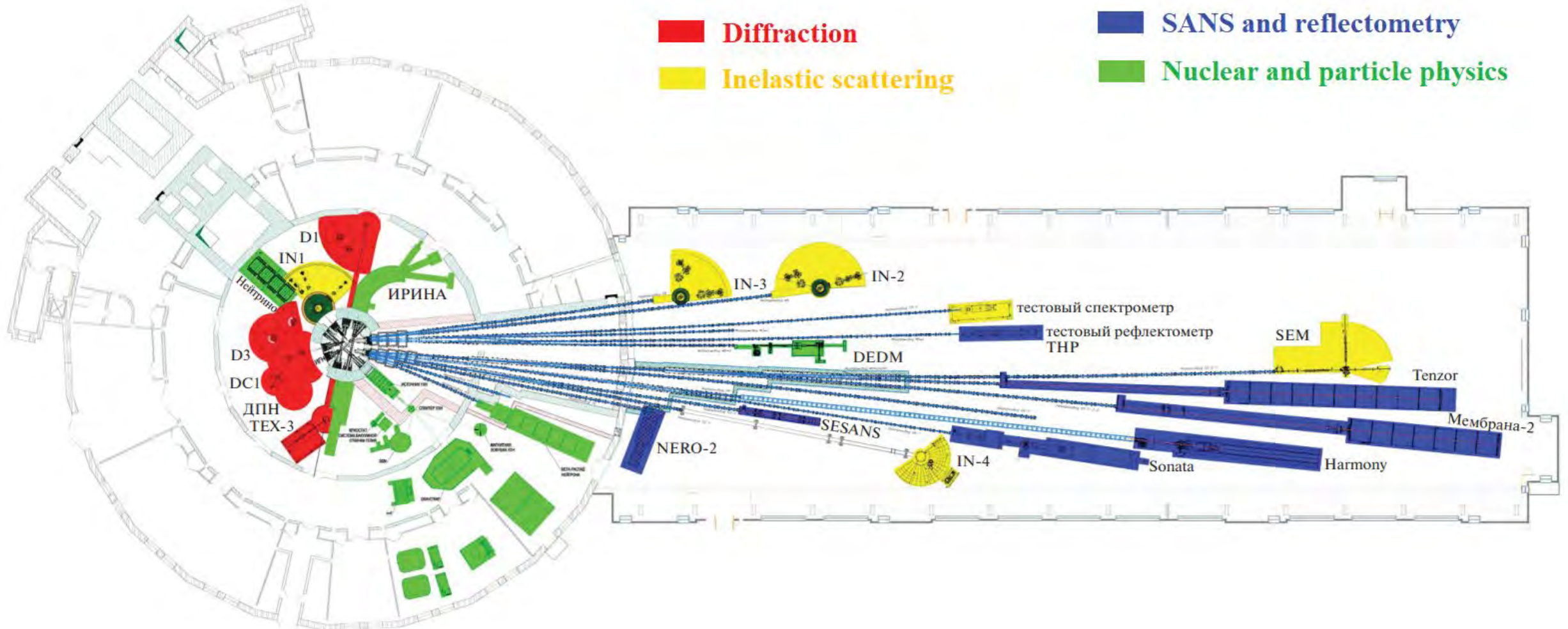
30% of beamtime were allocated for commercial contracts

Requested to run urgent experiments  
canceled at the IBR-2 reactor

## IVV-2M Experimental hall



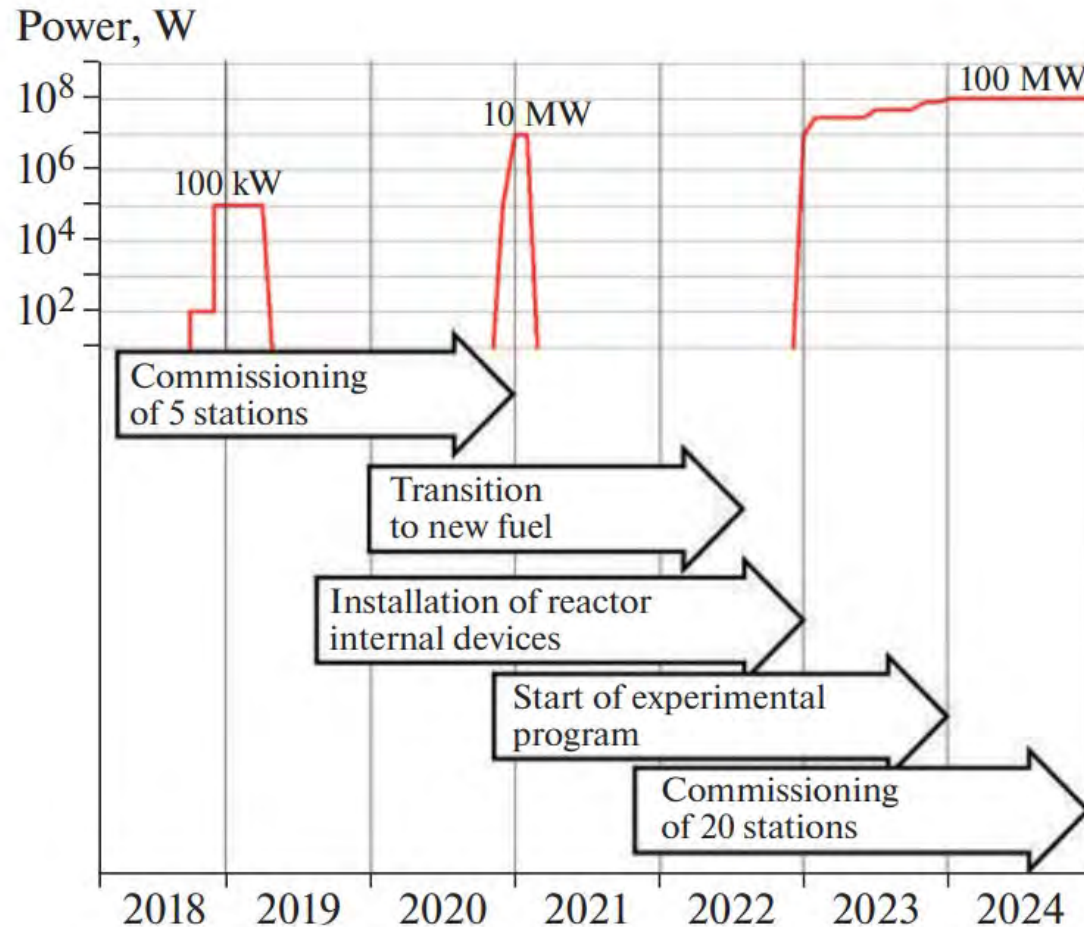
## Reactor PIK 100 MW, PNPI, Gatchina





## Reactor PIK roadmap, PNPI, Gatchina

✓ License for reactor operation at the power of 10 MW has been obtained



All-Russia Conference “Neutron Scattering in Condensed Matter Research”  
RNIKS-2021, in Yekaterinburg

## Statistics:

Total participants: 191

On-site participants (*all vaccinated*): 141

On-line participants: 50

Young participants: 75



КОНФЕРЕНЦИЯ ПО ИСПОЛЬЗОВАНИЮ РАССЕЯНИЯ НЕЙТРОНОВ  
В ИССЛЕДОВАНИИ КОНДЕНСИРОВАННЫХ СРЕД (РНИКС-2021)

Екатеринбург, 27 сентября – 1 октября 2021 г.

Thank you for your attention!