

IGORR

International Group on Research Reactors

35 Years of Success

A. Pichlmaier

axel.pichlmaier@frm2.tum.de

with special thanks to Klaus Böning, Douglas Selby, Kathy Rosenbalm, Gilles Bignan

Charter of IGORR

International Group on Research Reactors

(Situation in inauguration year 1989)

- Many organizations, in several countries, were planning or implementing new or upgraded research reactor projects, but there was no organized forum devoted entirely to discussion and exchange of information in this field.
- The International Group on Research Reactors (IGORR) was formed to facilitate the sharing of knowledge and experience among those institutions and individuals who were actively working to design, build and promote new research reactors or to make significant upgrades to existing facilities. (Proceedings of the first meeting, 03/1990)
- IGORR will continue to seek interaction with other organizations representing research reactor operators and users, including university reactors, the IAEA, and generally the research reactor community as well as its industrial partners.

Founding fathers of IGORR

- **Colin West**,
Director of the
Advanced Neutron
Source Project at ORNL
- **Klaus Böning**,
Project Leader of the
FRM II Project at TUM





FRM II, Germany

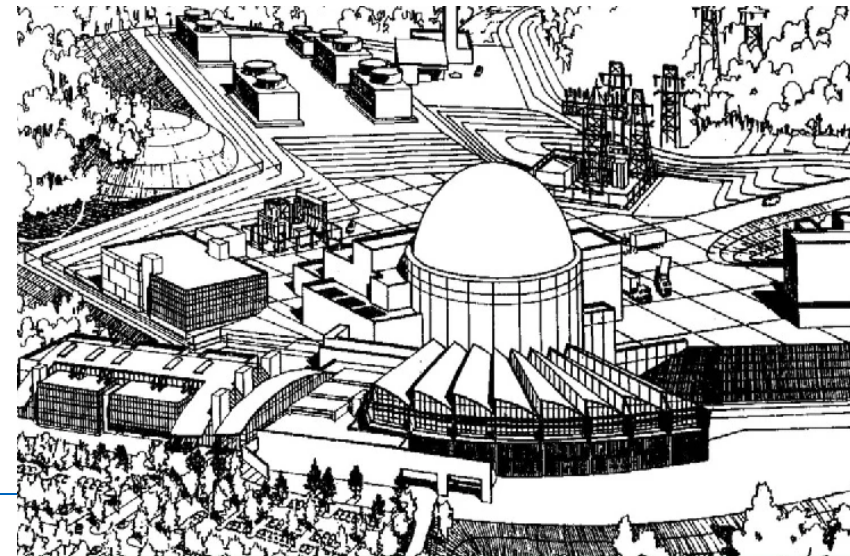
Hanaro, Korea

In 1989 there were
several **new research
reactors** proposed.



OPAL, Australia

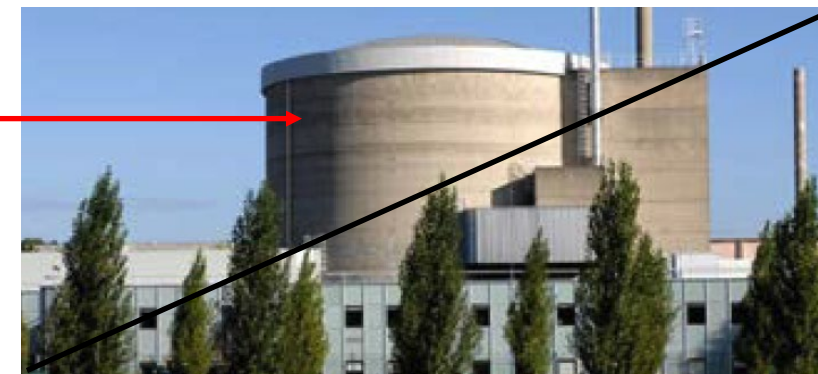
ANS, USA





In 1989, there were several **major upgrades ongoing** or being planned:

- First cold source at NIST (D_2O ice)
- Major upgrade in BER II completing
- Major upgrade in Petten completed
- Major upgrade in Orphée considered
- Rebuilt of JRR-3 almost complete



Status 2025

23 reactors planned or under construction in 18 countries

Facility Name	Country	City	Type	Power [kW]	Status
MYRRHA	Belgium	Mol	FAST	85000	PLANNED
RMB	Brazil	Iperó	POOL	30000	PLANNED
TMSR-SF1	China	Shanghai	EXPERIMENTAL	10000	PLANNED
TMSR-LF1	China	Shanghai	EXPERIMENTAL	2000	PLANNED
TFHR Thorium Pebble Bed	China	Shanghai	EXPERIMENTAL	2000	PLANNED
High Flux RR	India	Visakhapatnam	POOL	40000	PLANNED
Thermal RR	India	Visakhapatnam	POOL	125000	PLANNED
Research Reactor	Mongolia	Ulaanbaatar	POOL	5000	PLANNED
PALLAS	Netherlands	Petten	NA	0	PLANNED
Multipurpose RR	Nigeria	Abuja	POOL	10000	PLANNED
SUT MNSR	Thailand	Nakorn Ratchasima	MNSR	45	PLANNED
Multipurpose RR	Ukraine	Kiev	POOL	20000	PLANNED
Multipurpose RR	Viet Nam	Da Lat	POOL, IRT	15000	PLANNED
RA-10	Argentina	Buenos Aires	POOL	30000	UNDER CONSTRUCTION
RB-01	Bolivia	El Alto	POOL	200	UNDER CONSTRUCTION
RJH	France	Saint-Paul-les-Durance	TANK IN POOL	100000	UNDER CONSTRUCTION
KHRR	Iran	Khondab	HEAVY WATER	20000	UNDER CONSTRUCTION
IRR-10	Iran	Isfahan	POOL	10000	UNDER CONSTRUCTION
KJRR	Korea, Republic of	Busan	POOL	15000	UNDER CONSTRUCTION
MBIR	Russian Federation	Dimitrovgrad	FAST, POWER	150000	UNDER CONSTRUCTION
LPRR	Saudi Arabia	Riyadh	POOL	30	UNDER CONSTRUCTION
Argus-FTI	Tajikistan	Dushanbe	HOMOG (L)	50	UNDER CONSTRUCTION
KIPT Expt. Neutron Source	Ukraine	Kharkov	SUBCRIT	0.19	UNDER CONSTRUCTION

– and there are more projects we will learn about the next days!

/nucleus.iaea.org/rrdb/home
2025-05-24

IGORR – some technicalities

- IGORR has no permanent structure, the organisation of the chairman is hosting the website
 - Support of local organisers is necessary and highly appreciated. Thank you!
- A conference is organised every 18 months to 2 years
- The conference venue is rotating between the Americas, Europe and Australasia
- When in Europe, it is organised jointly with the RRFM conference (ENS). Next IGORR routinely should be in Europe again.
- Last IGORR was with TRTR in MD, USA.
- The conference is regularly organised with the IAEA (embedded technical meeting).
- This IGORR relies substantially on JAEA.

The last 10 IGORR conferences

1. June 2023 – College Park (MD), USA, in collaboration with TRTR
2. June 2021 – fully remote (→ Covid), in collaboration with the IAEA
3. March 2019 – Jordan, dead sea, in collaboration with RRFM and IAEA, hosted by JAEC
4. December 2017 – Sydney, Australia, in collaboration with IAEA, hosted by ANSTO
5. March 2016 – Berlin, Germany, in collaboration with RRFM, ENS
6. November 2014 – Bariloche, Argentina, in collaboration with IAEA, hosted by CNEA/INVAP
7. October 2013 – Daejeon, Korea, in collaboration with the IAEA, hosted by KAERI
8. March 2012 – Prague, Czech Republic, in collaboration with RRFM and IAEA, with support of CVR/UJV
9. September 2010 – Knoxville (TN), USA, in collaboration with TRTR, hosted by ORNL
10. October 2009 – Beijing, China, hosted by CIAE

IGORR 2023 with TRTR in College Park, MD, USA





*Proceedings of the Third Meeting
of
the International Group on Research Reactors
(IGORR-III)*



September 30 ~ October 1, 1993
Naka Research Establishment, JAERI, Naka, Ibaraki, Japan

Organized and Sponsored by
Japan Atomic Energy Research Institute

in Cooperation with
Committee for International Group on Research Reactors

Japan Atomic Energy Research Institute

IGORR III in Japan

1993, IGORR-III (more than 30 years ago) in Naka, Ibaraki, Japan.

So it was more than time to go back to Japan!

Important developments in the RR field in Japan ongoing.

- Thank you Japan
- Thank you JAEA
- Thank you Mito
- Thank you IAEA
- Thank you to all the organizers

IGORR Steering Committee 2025

- **AUSTRALIA** – Mark Summerfield (ANSTO)
- **ARGENTINA** – Herman Blaumann (CNEA), Nestor De Lorenzo (INVAP)
- **BELGIUM** – Steven Van Dyck (SCK.CEN)
- **CANADA** – Derek Cappon (McMaster University)
- **CHINA** – Yidong Zhou (CARR)
- **FRANCE** – Gilles Bignan (CEA), Francois Huet (Technicatome)
- **GERMANY** – Axel Pichlmaier (TUM)
- **IAEA** – Petr Chakrov (IAEA), Danas Ridikas (IAEA)
- **JAPAN** – Masaji Arai (JAEA), Masahiro Hino (KURNS)
- **JORDAN** – Khalifeh Abu-Saleem (JAEC)
- **RUSSIA** – Alexander Tuzov (ROSATOM-RIAR, membership temporarily suspended)
- **SOUTH KOREA** – In-Cheol Lim (KAERI), Sangik Wu (KAERI)
- **USA** – Sean O'Kelly (INL), Chris Bryan (ORNL), Lin-Wen Hu (MIT), Ayman Hawari (NCSU)

Some changes due during this conference – steering committee meeting (members and future members: today, 18:00 h Special Conference Room 310 at Mito Civic Center

IGORR Chairmen

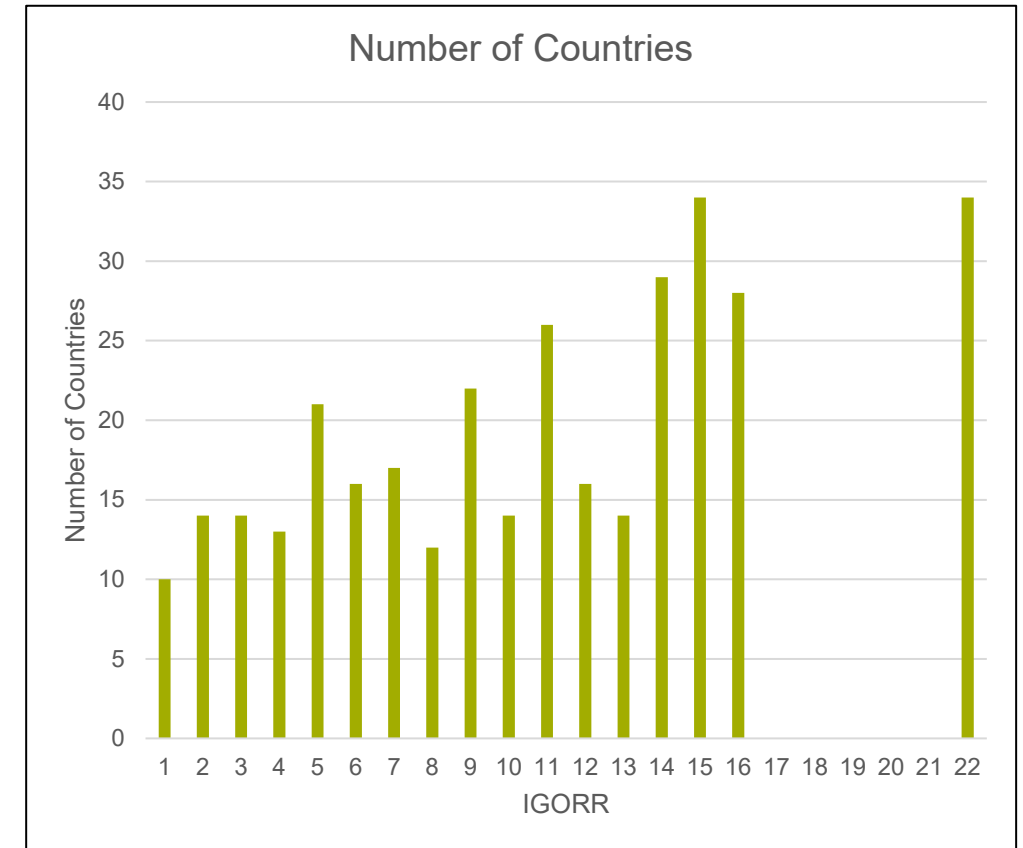
- Colin D. WEST, 1989 – 1996, ORNL (USA)
- Klaus BÖNING, 1996 – 2003, TUM (Germany)
- Alain BALLAGNY, 2003 – 2006, CEA (France)
- Joel GUIDEZ, 2006 – 2009, CEA (France)
- Gilles BIGNAN 2009 – 2023, CEA (France)
- Axel PICHLMAIER, TUM (Germany) with Sean O'KELLY, INL (USA) since 2023

IGORR 22 – This Conference



Statistics

- 34 countries + IAEA
- 128 participants
- 16 topics
- 71 oral presentations
- 29 poster presentations



Thank you to the IGORR 22 Sponsors

Gold Sponsors



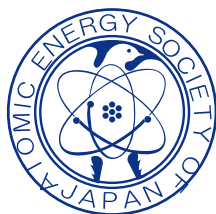
Bronze Sponsors



Coffee Break Sponsors

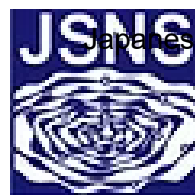


IGORR 22 – partners



一般社団法人 Atomic Energy Society of Japan

日本原子力学会



Japanese Society for Neutron Science

日本中性子科学会

IGORR 22



Successful Conference For All !

Thank you to
Alij Araj,
Masahiro Hino and
all the local organizers
for their great work!

