

The Thorium MSR Foundation presents

The Chinese thorium MSR Program

Meet & Greet with researchers of the Shanghai Institute of Applied Physics/CAS

Date: December 5th, 20:00h - 21:30h

Location: Fabrique Invent, Frederik Matthesstraat 30, Delft

Note: we expect a rather technical meeting, mainly of interest for those with at least a basic understanding of molten salt reactors.

Registration required

Please register by sending an email with your name in it, and in the subject "M&G China", to info@mwenb.nl. Please register with one person per email only, to enable a simple head count.

Background

According to World Nuclear, China is the worldwide leader in the field of molten salt reactor research, with a budget estimated at 500 million dollars. Researchers of the China Academy of Sciences/SINAP are working primarily on solid fuel MSR technology, as this is seen as a realistic first step.

However, SINAP has two streams of TMSR development – solid fuel (TRISO in pebbles or prisms/blocks) with a once-through fuel cycle, and liquid fuel (dissolved in fluoride coolant) with reprocessing and recycling. As the 'T' indicates, thorium fuels are considered for both streams.

A third stream of fast reactors to consume actinides from LWRs is planned. The aim is to develop both the thorium fuel cycle and non-electrical applications in a 20-30 year timeframe.

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The TMSR-SF (solid fuel) stream has only partial utilization of thorium, relying on some breeding as with U-238, and needing fissile uranium input as well. It is optimized for high-temperature based hybrid nuclear energy applications. TRISO particles will be with both low-enriched uranium and thorium, separately.

The TMSR-LF (liquid fuel) stream claims full closed Th-U fuel cycle with breeding of U-233 and much better sustainability with thorium but greater technical difficulty. The TMSR-LF timeline is about ten years behind the SF one.

Chinese visit

In December, three researchers of the Chinese Center for Thorium Molten Salt Energy System of the Shanghai Institute of Applied Physics, CAS will be visiting Delft and Petten. On December 5, they have kindly agreed to participate in a Meet&Greet organized by the Thorium MSR Foundation.

The researchers are:

Prof. Derek Tsang, who mainly focusses on nuclear graphite

Dr. Ruobing XIE has a focus on material irradiation

Jun LIN, PhD, who is doing R&D of nuclear fuel

Program M&G:

19.30 door open, welcome!

20.00 Derek Tsang, The progress of Chinese TMSR project

20.30 Jun LIN, R&D progress of Nuclear fuel for TMSR

20.45 Ruobing XIE, Materials research in TMSR: Progress and Needs

21:00-21:30 drinks.

Parking

[1] There usually is place for app. 30 cars on our parking lot.

[2] In the adjoining quarters, parking licenses are required. If our parking lot is full, you can park at the Storklaan area. It is app 10 minutes walk from the venue, allowing a very nice walk through the historical Agneta Park village (see map below).

[3] Tomtom will guide you through the very narrow streets of the village through the Zocherweg and the Frederik Matthesstraat. It is easier to drive to the parking lot at the right side of our Villa right away as soon as you see it, and check if there is still place (see aerial picture). Parking in front of the Villa is also allowed.



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