Meeting on the Preparation and Organisation of International Nuclear Science Olympiad

RAS0091-EVT2201093

Division for Asia and the Pacific, Department of Technical Cooperation
13- 17 Feb 2023
(C0343 and MOE61) Vienna International Centre

Objective: To discuss a new science olympiad series in nuclear science, proposed to be named International Nuclear Science Olympiad (INSO).

The meeting will:

- develop and finalise the organisational and the competition framework of INSO
- prepare for the initiation of the first INSO in 2023/2024.

The meeting will involve the members of the steering committee and international juries appointed under this initiative. The initiative for INSO is under the Asian Network for Education in Nuclear Technology (ANENT) with the support of the IAEA under TC Project RAS0091.

A brief note on the proposed INSO has been prepared as Appendix that can be refined and expanded further in this meeting. Most of the existing International Science Olympiad bodies have established clear regulations or statutes. This can be used as reference materials and benchmarking tool for this meeting.

Expected Outputs:

1. Established the roles and responsibilities of the steering committee members and international juries.
2. Developed the INSO organisational framework including the aims and purpose, scope, structure and regulations of the olympiad, sponsoring organisation and host country.
3. Developed the INSO competition framework including the general syllabus and assessment methods (theory and practical), participating states and participants.
4. Establishment of supporting committees and/or working groups for the planning and organisation of the Olympiad, if needed.
5. Agreed on a timeline and road map for the way forward including the action plans to organise the first INSO

Members of meeting:

NS Olympiad Steering Committee

- Ms Rorlinda Yusof, Malaysia
- Ms Maya Al Azri, Oman
- Mr Jay Carl Agbay, Philippines
- Mr Talal Alrashidi, Saudi Arabia
- Mr Hewa Hakuru Sumathipala, Sri Lanka
- Ms Issariya Chairam, Thailand
- Mr Abdallah El Marhoune, United Arab Emirates

International Juries

- Mr Yu Igarashi, Japan
- Ms Siti Nur Ain Sulaiman, Malaysia
- Mr Hamood Salim Said Hamed Al-Shidhani, Oman
- Mr Aman ur Rehman, Pakistan
- Mr Jordan Madrid, Philippines
- Mr Salman Alshehri, Saudi Arabia
- Mr Palihawadana Arachchige Aloy Parera, Sri Lanka
- Ms Kunthida Waree, Thailand
- Mr Dave Grabaskas, USA

IAEA

- Ms Marina Mishar, Section Head, Technical Cooperation for Asia and the Pacific (TCAP)
- Mr Han Bum Soo, Technical Officer, NAPC
- MS Helena Zhivitskava, Technical Officer, NEPK
- Ms Bridget Carter, TCAP
- Mr Mohd Hafiz Mohd Zin, TCAP

AGENDA

VENUE: MAIN ROOM C0343, BREAKOUT ROOM MOE61

Time	**Day 1: Monday, 13 February 2023** ***Room C0343***	**Lead**
09:30 – 10:30	Opening Remarks – *Ms. Marina Mishar, Section Head, Technical Cooperation for Asia and the Pacific* ● Meeting objective and target ● Designation of Steering Committee (SC) Chair ● Designation of SC Secretary ● Designation of Lead for the International Juries (IJ) Meeting to be chaired by The NSO Chair: ● Agreement of agenda ● Agreement on Olympiad Name (JNSO or INSO) Group Photo	IAEA SC Chair
10:30 – 11:00	Coffee Break	
11:00 – 11:30	Designation of allocation of work for this meeting (refer to *Annex 1*)	IAEA
11:30 - 12:00	Overview of the TC project RAS0091 - *Ms. Bridget Carter, IAEA*	IAEA
12:00 - 12:30	Japan experience in organising NST competition - Dr Yu Igarashi, JAP	IAEA
12:30 - 14:00	Lunch break	
14:00 - 17:00	Presentation on the draft NSO SC ToR – by Dr Maya, OMA Discussion on NSO SC ToR (aims and purpose, scope, structure and roles and responsibilities for both SC and IJ)	SC Chair

Time	**Day 2: Tuesday, 14 February 2023** ***Room C0343 and Room MOE61***	**Lead**
9:30 – 10:00	Recap day 1 by NSO Secretary Day Assignments by SC Chair	SC Chair

10:00- 12:30	Breakout session 1: Group 1: *Room C0343* ● Presentation by Mr Abdallah, UAE ● Discussion and finalization of the regulations of the olympiad including sponsoring organisation, host country / local organising committee + scientific committee, participating states and participants. Group 2: *Room MOE61* ● Presentation by Prof Sumathipala, SRL ● Discussion and finalization of the Olympiads competition framework including general syllabus and assessment methods (theory and practical)	SC Chair IJ Lead
12:30-14:00	Lunch break	
14:00-15:30	Breakout session 1 (continued) Group 1: *Room C0343* Group 2: *Room MOE61*	SC Chair IJ Lead
15:30-17:00	Presentations by each group, discussion and agreement *Room C0343*	IAEA

Time	**Day 3: Wednesday, 15 February 2023** ***MOE61 and C0343***	**Lead**
9:30 – 10:00	Recap day 2 by NSO Secretary Day Assignments by SC Chair	SC Chair
10:00- 12:30	Breakout session 2: Group 1: *Room C0343* ● Presentation by Dr Rorlinda, MAL (guidelines for organizers) and Mr Talal Alrashidi, SAU (guidelines for observers) ● Application to NSO and guidelines including guidelines for organizers and observer Group 2: *Room MOE61* ● Presentation by Dr. Issariya Chairam, THA (Olympiads problem development) and Mr Jay (guidelines for mentors) ● Development of problems: theoretical, practical and/or project and guidelines including guidelines for Mentor	SC Chair IJ Lead

12:30-14:00	Lunch break	
14:00-17:00	Breakout session 2 (continued) Group 1: *Room C0343* Group 2: *Room MOE61*	SC Chair IJ Lead

Time	**Day 4: Thursday, 16 February 2023** ***MOE61 and C0343***	**Lead**
9:30 – 11:00	Presentations by each group, discussion and agreement *Room C0343*	IAEA SC Secretary
11:00- 12:30	Breakout session 3: Group 1: *Room C0343* ● Timeline from announcement to organisation including relevant guidelines Group 2: *Room MOE61* ● Timeline to finalize the problems and announce the problems to accepted participants including relevant guidelines	SC Chair IJ Lead
12:30-14:00	Lunch break	
14:00-15:30	Presentations by each group and agreement on the overall timeline *Room C0343*	SC Chair IJ Lead
15:30-17:00	*Discussion on the first INSO host/alternate host* *Room C0343*	SC Chair

Time	**Day 5: Friday, 17 February 2023** ***C0343***	**Lead**
9:30 – 11:30	Overall discussion and to conclude the drafted documents 1. Aims and purpose, basic principles and regulations, structure, and roles and responsibilities for SC and IJ 2. Regulations for the olympiad organization - sponsoring organisation, host country/ local organizing committee, participating states, participants	SC Chair

	3. The Olympiads competition framework including general syllabus and assessment methods (theory and practical) 4. Application to NSO and guidelines including guidelines for organizers and observers 5. Development of problems: theoretical, practical and/or project and guidelines including guidelines for mentor 6. Timeline from announcement to organisation including relevant guidelines 7. Timeline to finalize the problems and announce the problems to accepted participants including relevant guidelines	
11:30- 12:30	Closing session	SC Chair IAEA

Annex 1

Group 1: SC Chair	**Group 2: International Juries Lead**
Day 1: NSO Steering Committee ToR (aims and purpose, basic principles and regulations, structure, and roles and responsibilities for both SC and IJ) (Presenter: Dr Maya, OMA)	
Day 2: Regulations for the olympiad organization - sponsoring organisation, host country/ local organizing committee + scientific committee, participating states, participants (Presenter: Mr Abdallah, UAE) +Logo, flag	Day 2: The Olympiads competition framework including general syllabus and assessment methods (theory and practical) (Presenter: Prof Sumathipala, SRL) **Reference Material: Guidebook Series for Introducing NST in secondary education – Book 2 & 3 (still in editing mode)*
Day 3: Application to NSO and guidelines in guidelines for organizers (Presenter: Dr Rorlinda, MAL) and observers (Presenter: Mr Talal Alrashidi, SAU)	Day 3: Development of problems: theoretical, practical and/or project (Dr. Issariya Chairam, THA) and guidelines including guidelines for mentor (Presenter: Mr Jay, PHI)
Day 4: Timeline from announcement to organisation including relevant guidelines	Day 4: Timeline to finalize the problems and announce the problems to accepted participants including relevant guidelines

Science Olympiad

Introduction: International Science Olympiads is the biggest 'group' of international science Olympiad that consists of 14 commonly recognised Olympiads in various area of basic sciences, applied sciences and social sciences. It has no links to the International Olympic Committee.

Other Olympiads in the world

- US sponsored Science Olympiad, it is a national science Olympiad that feeds representative to the international sicence olympiad
- Russia version https://en.wikipedia.org/wiki/Tuymaada The structure is being in conformity with the International Science Olympiads worldwide and all Russian National Science Olympiads
- European union science olympiad http://euso.eu/about/rules-regulations/Eu

History: http://euso.eu/history-of-euso/

Areas:

There are 14 commonly recognised International Science Olympiads competetion

Number	Science	Symbol	Year
1	International Mathematical Olympiad	IMO	since 1959
2	International Physics Olympiad	IPhO	since 1967
3	International Chemistry Olympiad	IChO	since 1968
4	International Olympiad in Informatics	IOI	since 1989
5	International Biology Olympiad	IBO	since 1990
6	International Philosophy Olympiad	IPO	since 1993
7	International Astronomy Olympiad	IAO	since 1996
8	International Geography Olympiad	iGeo	since 1996
9	International Linguistics Olympiad	IOL	since 2003
10	International Junior Science Olympiad	IJSO	since 2004
11	International Earth Science Olympiad	IESO	since 2007
12	International Olympiad on Astronomy and Astrophysics	IOAA	since 2007
13	International History Olympiad	IHO	since 2015
14	International Economics Olympiad	IEO	since 2018

Participants

- The competitions are designed for the 4-6 best high school students from each participating country selected through internal National Science Olympiads, with the exception of the IOL, which allows two teams per country, the IOI, which allows two teams from the hosting country, and the IJSO, which is designed for junior secondary students.

Organising

- The Olympiads themselves are separate competitions each with its own organizing body, even though they are loosely grouped together as "ISOs".
- The aims of each ISO are to promote a career in science; to challenge the brightest students from around the world; and to compare the various teaching systems of each country.
- Although the competitions are aimed for secondary school pupils, the standards of the exams are extremely high. In fact, in several countries, achieving a high ranking in any ISO guarantees access to a university of choice and a fellowship. Massachusetts Institute of Technology and

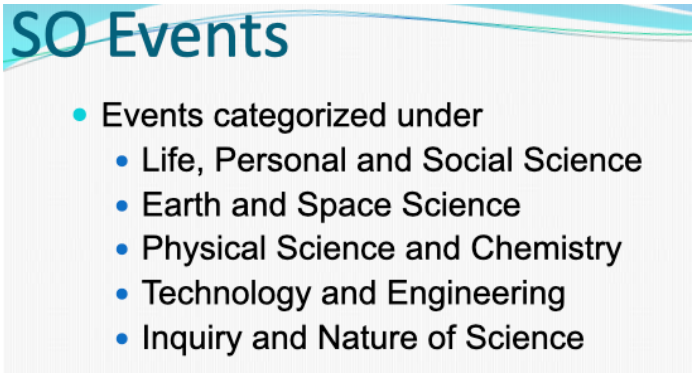
University of Cambridge, for example, recruits a multitude of ISO medalists to their incoming undergraduate class every year

- An example of an applied science Olympiad is the International Astronomy Olympiads
  - https://en.wikipedia.org/wiki/International_Astronomy_Olympiad
  - The **International Astronomy Olympiad** (**IAO**) is an internationally recognized annual astronomy scientific-educating event for high school students (14–18 years old), which includes an intellectual competition between these students. It is one of the International Science Olympiads.
  - The Eurasian Astronomical Society founded the IAO in 1996.
  - Statue of IAO http://www.issp.ac.ru/iao/statutes/iaoar_e.html

Examples of other Olympiads

- Chemistry
  - IChO - Regulations (ichosc.org)
  - Explanation of the Examination (icho2022.cn)
  - Videos (icho2022.cn)
  - https://icho2022.cn/2022/0722/c28603a463828/page.htm speech organisor 2023 in switzerland at ETH Zurich
  - MENTORS ACOMPANYING THE COUNTRY PARTICIPANTS ARE ALSO THE JURY https://www.icho.sk/international-jury/
  - Meeting agenda https://www.icho2021.org/wp/wp-content/uploads/2021/05/2021_01_SC_minutes_final.pdf
- Earth science
  - STATUTES_OF_THE_INTERNATIONAL_EARTH_SCIENCE_OLYMPIAD_V.4_PUBL_NOV-01-2016-1.pdf (ieso-info.org)
  - Archive https://www.ieso2022.com/wp-content/uploads/2022/01/STATUTES_OF_THE_INTERNATIONAL_EARTH_SCIENCE_OLYMPIAD.pdf
- Nuclear by world nuclear university
  - https://www.world-nuclear-university.org/programmes/nuclear-olympiad

  To date, there have been four Nuclear Olympiads. 2011, 15, 16, 19
- Rules for jury from IO
  - http://www.issp.ac.ru/iao/statutes/p/ia09rules_jury.html
- STAGES FROM NATIONAL TO INTERNATIONAL,
  - INDIAN EXAMPLE https://olympiads.hbcse.tifr.res.in/about-olympiads/stages/science-olympiad/
  - Iran https://www.president.ir/de/139074
- Hongkong https://globalolympiadsacademy.com/hkiso/ also export to the rest of the world and align with other idependant olympiads
- US SCIENCE OLYMPIAD
  - Science Olympiad (soinc.org) Ready for the Olympic Knowledge Challenge? (olympiad.ch)
  - SCHOOL MEETING https://www2.montgomeryschoolsmd.org/siteassets/schools/middle-schools/n-r/northbethesdams/uploadedfiles/about/science-olympiad-interest-meeting---09_21_22.pdf
  - Agenda What is Science Olympiad? How can I sign up for SO? How can we all make this happen? 5/16/2013Ocean Air Science Olympiad ppt download (slideplayer.com)

- 

- Smaller niche area Olympiads: Cardiovasucalr medicine olympiad in conjuction with **International Symposium on Experimental & Clinical Cardiology**
  - Home (cvolympiad.com)

Components of the olympiad series

	International Astronomy Olympiad		
Documentation/link	Acting Statutes/Regulations		
	Aims and Purposes		
	Basic Principles, Statutes and Regulations of the Olympiad		
	Organizations Sponsoring and Holding the Olympiad (sponsoring organization and the obligations)		
	Procedures and Participants of the Olympiad (Olympiad period, procedures before, schedule, competition procedures, participants components)		
	Participating States. Formation of Teams. (Countries participating each national organisation of team leader, observer, representative),		
	Official and Working Languages of the Olympiad.		
	Representative and Working Bodies of the Olympiad (authroized national representative, coordinating council of the olympiad and responsibilities, jury board and responsibilities, advisory committee, local organising committee)		

	Problems for the Olympiad, their Preparation and Selection (components and level of complexity)		
	Financing of the Olympiad (financial obligation of the local organising committee, incomes possibilities, financial obligation of national representative, fund)		
	Status of the Olympiad		
	Alterations of the Basic Principles of the Olympiad		