



**INTERNATIONAL WALISONGO SCIENCE COMPETITION (IWSC)
FACULTY OF SCIENCE AND TECHNOLOGY**

UNIVERSITAS ISLAM NEGERI WALISONGO SEMARANG

Address: Prof. Dr. Hamka Street (Campus 3) Semarang, Central Java,
Indonesia, 50185 Phone (+62 24) 76433366

E-mail: i_wsc@walisongo.ac.id Website: <https://iWSC.walisongo.ac.id/>



Semarang-Indonesia, June 9, 2023

ANNOUNCEMENT OF SEMIFINALIST

INTERNATIONAL WALISONGO SCIENCE COMPETITION 2023

No. : B- 4205/Un.10.8/D/KM.01.04/06/2023

A. COMPETITION CATEGORY: MATHEMATICS

NO	FULL NAME	UNIVERSITY/COLLEGE	RANK
1	GALANG RIKI RAMADHAN	DIPONEGORO UNIVERSITY	1
2	SAKHA NASTA MAHENDRA PUTRA	AIRLANGGA UNIVERSITY	2
3	ANDI AMMAR AKRAR	MAKASSAR STATE UNIVERSITY	3
4	SAYED KHAIRUMAN AHMAD FARREL	HASANUDDIN UNIVERSITY	4
5	MUHAMMAD KHOIRUL LATIF	UIN WALISONGO SEMARANG	5
6	ALDIOVANO PUTRA ROBERTA	SURABAYA STATE UNIVERSITY	6
7	NAYAKA IBRAHIM	UIN MAULANA MALIK IBRAHIM MALANG	7
8	MUHAMMAD FARHAN FATAHILLAH	HASANUDDIN UNIVERSITY	8
9	NUR HAYATI NURDIN	HASANUDDIN UNIVERSITY	9
10	KAUTSAR RIZKY MAHARDIKA	UIN WALISONGO SEMARANG	10

B. COMPETITION CATEGORY: PHYSICS

NO	FULL NAME	UNIVERSITY/COLLEGE	RANK
1	TAZKIA KAMILIA WARDAH	UIN SAYYID ALI RAHMATULLAH TULUNGAGUNG	1
2	EMAR MOKIMAN KALA' TAGARI	HASANUDDIN UNIVERSITY	2
3	FAQIHAH FAJRIANI. J	HASANUDDIN UNIVERSITY	3
4	INDRIANI NOVIAGEL	HASANUDDIN UNIVERSITY	4
5	HARMIATI HARBI	HASANUDDIN UNIVERSITY	5
6	RIZAL KRISDIYANTO	UIN WALISONGO SEMARANG	6
7	SITI NURFADHILAH MURTADO	UIN WALISONGO SEMARANG	7
8	DESI TASARI	UIN SAYYID ALI RAHMATULLAH TULUNGAGUNG	8
9	AZHAR ARSYAD	MAKASSAR STATE UNIVERSITY	9
10	AHMAD DHIYAUH WAHID	SEMARANG STATE UNIVERSITY	10



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C. COMPETITION CATEGORY: CHEMISTRY

NO	FULL NAME	UNIVERSITY/COLLEGE	RANK
1	KHAIRAHMA	UNIVERSITAS NEGERI MEDAN	1
2	MUHAMMAD AKBAR NUGRAHA	UNIVERSITAS NEGERI MEDAN	2
3	CHOIRUL ANWAR	UNIVERSITAS LAMPUNG	3
4	MUHAMMAD AKMAL FAUZAN	UIN MAULANA MALIK IBRAHIM	4
5	KHAIRAHMI	UNIVERSITAS NEGERI MEDAN	5
6	VIKA CHUSNURRI'AYAH	UIN TULUNGAGUNG	6
7	TATMAINNUL QULUB	UIN WALISONGO SEMARANG	7
8	AINUL FATIHIN	UIN TULUNGAGUNG	8
9	JIRASUDA KAEWKHEAW	PRINCE OF SONGKLA UNIVERSITY	9
10	KRISNA YUDHA SYAHPUTRA	UIN WALISONGO SEMARANG	10

D. COMPETITION CATEGORY: BIOLOGY

NO	FULL NAME	UNIVERSITY/COLLEGE	RANK
1	YUNI YUSROTIN	UIN WALISONGO SEMARANG	1
2	MUHAMMAD ANJAS ZULFIKAR	MAKASAR STATE UNIVERSITY	2
3	IKA APRILIA RIZKIA	UIN WALISONGO SEMARANG	3
4	NUR HIKMAH	MAKASAR STATE UNIVERSITY	4
5	NURSYAFIRA ASMA HUMAIRAH	UIN SUNAN GUNUNG DJATI BANDUNG	5
6	MUHAMMAD FADHIL JUFRI	MAKASAR STATE UNIVERSITY	6
7	NISA AMALIYAH ROHMAH AL FAROQI	UIN WALISONGO SEMARANG	7
8	AHMAD RIZKI FAUZAN	UIN RADEN FATAH PALEMBANG	8
9	MUHAMMAD ISBATULLAH	UIN ALAUDDIN MAKASSAR	9
10	SULLY PUDJA KHARISMA	UIN RADEN FATAH PALEMBANG	10

E. SCIENTIFIC PAPER: START-UP INNOVATION IN INFORMATION TECHNOLOGY

NO	FULL NAME	UNIVERSITY/COLLEGE	RANK
1	ABU BAKAR SIDIK	UIN WALISONGO SEMARANG	1
2	EKA FITRI HANDAYANI, D.K.K	UIN MAULANA MALIK IBRAHIM MALANG	2
3	MUHAMMAD HAIKAL AUFAN	UIN WALISONGO SEMARANG	3
4	MIFTAKUN NIAM, D.K.K	UIN WALISONGO SEMARANG	4
5	ATIKAH ZAHRA	UIN RADEN FATAH PALEMBANG	5
6	DINA MILLATINA	UIN SUNAN KALIJAGA YOGYAKARTA	6



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7	WAHYU RIZQY SAPUTRA, D.K.K	UIN WALISONGO SEMARANG	7
8	SARAH AZIMAH LUBIS	INSTITUTE OF TECHNOLOGY KALIMANTAN	8

F. SCIENTIFIC PAPER: ENVIRONMENTAL ENGINEERING

NO	FULL NAME	UNIVERSITY/COLLEGE	RANK
1	FUAN MAHARANI	SYIAH KUALA UNIVERSITY	1
2	YUSRIL SURYA PUTRA	UIN RADEN FATAH PALEMBANG	2
3	DEDI WAHYU ARI SETIAWAN	UIN RADEN FATAH PALEMBANG	3
4	FADHILAH AMELIA	UIN RADEN FATAH PALEMBANG	4
5	FARID MUHAMMAD ARIE	SYIAH KUALA UNIVERSITY	5
6	LILI SAFARWATI	UIN RADEN FATAH PALEMBANG	6
7	SALMANERA SENJA LOPIANI	IAIN KUDUS	7
8	RICI RAHMAWATI	UIN RADEN FATAH PALEMBANG	8
9	MUHAMMAD ABDUL MUHYI	UIN MAULANA MALIK IBRAHIM MALANG	9
10	SALSANAS LINGGA WIDIASASTI	UIN WALISONGO SEMARANG	10

Notes:

1. All Semifinalist must send a science project video with the maximum duration of 15 minutes as part of the semifinal assessment process through the website <http://iwsc.walisongo.ac.id> from 10-21 June 2023 at 18.00 pm +UTC (Jakarta time)
2. Semifinalists are disqualified if they do not submit video projects.
3. Evaluation of the video by the internal jury will be held on 22 June, 2023.
4. Semifinalist ranking 1 to 6 in each competition category eligible to compete in final round and will be announced on 23 June 2023 on the website: <http://iwsc.walisongo.ac.id>.
5. If there are any problems, please contact the committee (Indonesian participant: Rina +62-857-2841-5167) and International Participant: Kustomo +62-857-4272 -8650)



Sincerely,

Dr. Ismail
Dean of Faculty of Science and Technology,
UIN Walisongo Semarang-Indonesia
E-mail: i_wsc@walisongo.ac.id



SEMIFINAL ROUND TECHNICAL GUIDE

A. TECHNICAL GUIDE FOR VIDEO PROJECT

MATHEMATICS

Semifinal Round Technical Setting:

1. The topics for semifinal round of mathematics competition is the implementation of pure mathematics in other fields (technology, economy, social, etc.).
2. Finalists prepare a video with a maximum duration of 15 minutes from the chosen topic.
3. Finalists upload the video on the IWSC website <http://iwsc.walisongo.ac.id> from 10-21 June 2023.

PHYSICS

Semifinal Round Technical Setting:

1. Finalists prepare a video with a maximum duration of 15 minutes based on the given project.
2. The video is then uploaded on the IWSC website <http://iwsc.walisongo.ac.id> from 10-21 June 2023.

Physics Project:

1. Tools and Materials:
 - a. Elastic materials of negligible mass (e.g. rubber, valves, spiral springs, etc.)
 - b. Loads that can be considered point objects (e.g. stones, logs, etc.)
 - c. Massive straight rod (e.g. wood, metal, etc.)
 - d. A rope whose mass is negligible
 - e. Hook
2. Question:
 - a. Assemble all the tools and materials in number (1) into one system (free circuit)!
 - b. Explain how the system moves?
 - c. How many constraints are there in the system?



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- d. How many degrees of freedom are there in the system?
- e. Find the equation of motion for the system!

CHEMISTRY

Semifinal Round Technical Setting:

1. Finalists in the field of chemistry create and present videos based on simple research.
2. The video material can be chosen by the finalists based on the reference questions that have been prepared by the committee.
3. Finalists prepare a video with a maximum duration of 15 minutes from the selected reference questions.
4. The video is then uploaded on the IWSC website <http://iwsc.walisongo.ac.id> from 10-21 June 2023.

Reference Questions for Chemistry:

Plants

- Does the presence of detergent in water affect plant growth? In what ways? What is the implication regarding water pollution?
- How close does a plant have to be to a pesticide for the pesticide to work? What factors influence the effectiveness of a pesticide, such as rain, light or wind? How much can you dilute a pesticide while retaining its effectiveness? How effective are natural pest deterrents?
- What is the effect of a chemical on a plant? You can look at natural pollutants—such as motor oil or runoff from a busy street—or unusual substances, for example, orange juice or baking soda. Factors that you can measure include rate of plant growth, leaf size, life/death of the plant, the color of the plant, and ability to flower/bear fruit.

Food

- How does the shape of an ice cube affect how quickly it melts?
- Do the same types of molds grow on all types of bread? Are certain preservatives better at inhibiting dangerous molds than others?



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- Is the nutritional content of different brands of a vegetable (such as canned peas) the same? How much variation is there in any given product?

Energy

- Solve a problem. For example, can you design a better type of battery or fuel cell?
- What new forms of renewable and environmentally friendly energy can be produced from the surrounding environment? How about the effectiveness, economic value, greenness, and sustainability of the energy?
- Are fuel substitutions effective to replace fossil fuels? What fuel can be used as a substitute? What is the process for producing these alternative fuels?

Health and Medicine

- Can honey, black cumin, dates, or herbal medicine of thibbun nabawy be used to increase body resistance (healthiness)? How effective is it? Is there a simple way to extract the ingredients so they are easier to consume?
- Do plants in the surrounding environment have health benefits? Is there any empirical evidence about this? And how is it used, judging by the level of public consumption and the manufacturing process?

Analytical

- Are there natural indicators to detect the presence of hazardous metals in the environment? How does it work?
- Are there natural indicators to detect the presence of hazardous materials in food and beverage products? How does it work?

BIOLOGY

Semifinal Round Technical Setting:

1. The topics for the final round of the Biology Competition is “the effect of visible light and “X” on the seed germination in plants”
2. The finalist add another factor “X” as you wish besides the visible light, e.g. temperature, hormone, etc



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3. Finalists are expected to prepare videos illustrating the experiment with a maximum duration of 15 minutes from the chosen topic.
4. The video is then uploaded on the IWSC website <http://iwsc.walisongo.ac.id> from 10-21 June 2023.

SCIENTIFIC PAPER: ENVIRONMENTAL ENGINEERING AND INFORMATION TECHNOLOGY

Semifinal Round Technical Setting:

1. The topic of the video project made by the branch of the scientific work competition: environmental engineering and information technology is in accordance with the submitted paper.
2. Finalists prepare a video with a maximum duration of 15 minutes from the chosen topic.
3. Finalists upload the video on the IWSC website <http://iwsc.walisongo.ac.id> from 10-21 June 2023.