

International Natural Sciences Tournament

February 1-6, 2019

www.scitourn.com

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1. WALL-E 2.0

In 2009, the commercial communications satellite Iridium 33 came into collision with the decommissioned communications satellite "Kosmos-2251". This collision created a large amount of debris, and yet again increased the mass of industrial waste on the orbit of the Earth.

Space debris is a severe problem for launching and operating spacecrafts, yet still there are no reliable ways of cleaning up our planet's orbit. Propose your own technology for removing space debris, as well as assess and justify its recyclability.

2. Green worms

There is a belief among fishermen that fish bite better at green worms that glow underwater. Is there any physiological proof of this assumption? Propose your own way of increasing the appeal of worms to the fish, taking into account the fish physiological and behavioral characteristics. Your alteration should be available to the ordinary fisherman.

3. Ammonia collapse

Special urea-based admixtures are used to speed up the setting of precast concrete constructions, as well as to increase the frost resistance of concrete. After the building has been commissioned, the owners encounter a long-lasting odor of ammonia indoors. Further interior finishing and continuous airing doesn't help get rid of the odor, and the content of ammonia in the air several times exceeds the permissible levels. Propose a cheap and available way for the residents to solve this problem.

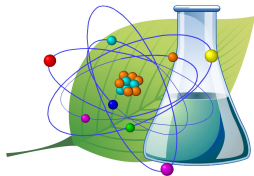
What alternative concrete technologies can the property developer use to avoid the emission of ammonia during the further use of the buildings?

The Tournament consists of Extramural and Intramural rounds. To participate in the Extramural round the team should send clear and outstanding solutions of two out of three extramural round problems before the 1st of November 2018 (first wave) or before the 21st of November 2018 (second wave).

Each solution consists of:

1. Presentation (*.ppt, *.pdf);
2. Extended solution (*.doc) – 5 pages or less.

The solutions should be sent before the deadline via the account on the [website](#).



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If you have any questions with regards to the presented information, please, do not hesitate to contact the Teams' coordinator Vera Somova via:

✉ e-mail: participants@scitourn.com;

☎ WhatsApp: + 7 981 740 68 54;

☎ Skype: vera_suns

Please, remember the following notes:

- participation in the Extramural round is free of charge;
- participation fee for the Intramural round is 1000 US Dollars per team.

This will provide a team of 5 members and its coach accommodation for the intramural round days of the Tournament.

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