

## EIC 2021 Phase B Instructions

Each team is to choose a question from the list below. The team is to design and conduct an experiment to answer the question. In the process, the team must use Rad-X to record and submit at least 40 readings to the server as proof of work done. At the end of phase B, the team is to submit a short report to [snrv11@nus.edu.sg](mailto:snrv11@nus.edu.sg) with the title of the email and name of document being: [team number]\_[School]. The question chosen should be clearly stated in the report. The deadline for submission is 3 Sept 2021.

### Grading

Phase B will contribute 30% to the overall score for Cat 1 – 3. The breakdown for the 30% is as follows:

- Data collected via Rad-X and submitted to server: 20%
- Written report: 10%. The grading for the report is as follows:
  - Scientific rigor (4%)
  - Clarity and simplicity (4%)
  - Creativity (2%)

### Topics

#### Sub-topic 1: Locations

- Are higher floors of a building subject to higher background levels of ionizing radiation?
- Do parks and “greener areas” have lower background levels of ionizing radiation?
- Do busy roads have higher background levels of ionizing radiation?
- Do schools have higher background levels of ionizing radiation?
- Do areas near water (lakes, rivers, sea, etc) have higher background levels of ionizing radiation?

#### Sub-topic 2: Conditions

- Does the amount of rainfall affect the background levels of ionizing radiation?
- Do enclosed rooms result in higher background levels of ionizing radiation?
- Do air-conditioned rooms have higher background levels of ionizing radiation?
- Do rooms that are underground (e.g. basement) have higher levels of ionizing radiation?
- Does the time of day affect the background levels of ionizing radiation?
- Does the humidity affect the background levels of ionizing radiation?
- Does solar irradiance affect the background levels of ionizing radiation?
- Does temperature affect the background levels of ionizing radiation?

#### Sub-topic 3: Household items

- Do handphones emit ionizing radiation?
- Do microwaves emit ionizing radiation?
- Does microwaved food emit ionizing radiation?
- Does your television emit ionizing radiation?
- Do you have any objects that emit ionizing radiation?

If you have an idea that you're keen on exploring but it is not in the list above, feel free to contact SNRSI at [snrv11@nus.edu.sg](mailto:snrv11@nus.edu.sg) for approval on a case-by-case basis.