



arché

THE PHYSICS TEAM

INSTITUTO ALPHA LUMEN - BRAZIL

THE ELEMENTARY PARTICULATE MASS GENERATION MECHANISM



High School Physics Award 2021

Team:	Names of group:	Names of instructor:
arché - The Physics Team	1. Ana Carolina Theodosio de Carvalho Ayres de Camargo 2. João Felipe Magalhães Diniz 3. Maria Eduarda Couferai Soufia	1. Victor Silva Tona de Abranches 2. Maxsuel de Oliveira Ribeiro

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Name of the school: Instituto Alpha Lumen

Title of the project: Elementary particles: the mass generation mechanism

Overall description: This article aims to present in a didactic and academic way the present question: How and why do the particles and structures of the Universe have mass? Presenting data and articles on the most advanced science we have to discuss the subject.

Video link: Will be delivered until 11/15

Attachment: Will be delivered until 11/15

Supplement links: Will be delivered until 11/15

No.13514 - Application Date 2021.10.30

Country Brazil Name of the school Instituto Alpha Lumen

Level of education Upper Secondary

(High School) /

High School Physics Award 2021

Schedule

School team registration by October 30, 2021	Form on the website https://emodelnations.com/high-school-physics-award-2021/
Academic project submission	send to email awards@emodelnations.com

Selection Criteria

Relevance to physics sciences	0-10 points
Originality in choice of subject for investigation	0-10 points
Creativity in problem solving and methodology	0-10 points
Contribution and potential to future physics development	0-10 points
Video	0-10 points
Scholarship and clarity of written report	yes - no
If applicable, scholarship and clarity of spoken presentation	yes - no
If applicable, demonstration of teamwork	yes - no

Competition Guide

I. Entry Requirements

Eligibility

- Each participating team should consist of 1-3 high school student(s) and 1-2 instructor(s).
- The participating teams (including under external guidance) have achieved scientific research results.

Application Process

- Online account registration, submission of team and individual information.
- Online submission of research reports and other required materials. Applications received after the deadline will not be considered.

Required Materials

- Information of the participating team and individuals (to be completed online).

b) Research Report:

i. Format: PDF file.

ii. Each Report should include the following:

- Cover Page: name of student(s), province/state and country of the school with which the student(s) are affiliated, name of instructor(s), and title of the Report.
- After Cover Page: Title, Author(s), Abstract, Keywords, Table of Contents, and Body Text.
- Bibliography: starting on a separate page.
- Acknowledgment: describe the roles and contributions of each team member in completing the Research Report and, if applicable, any external assistance for the research.
- Any form of plagiarism or other academic misconducts are strictly prohibited.
- References to existing research methods and conclusions must be indicated with clear citations and included in the bibliography. Each participating team should observe the common standard of academic integrity adopted by most journals or degree theses.
- The research content and research process must not violate laws and regulations, or general principles of public order and social customs.
- The research subject must not include food, tobacco, alcohol, drugs, or medical instruments that may entail physical or psychological harms to human beings or animals.

c) Plagiarism check report

A plagiarism check report of the final Research Paper must be submitted before the deadline of the Research Report submission. (Recommended plagiarism check platforms: HowNet, PaperPass)

d) Supplementary documents (optional): such as experiment videos or relevant text/graphic materials.

Special Notes

a) Registration and the submission of all materials must be completed through the online system. Submissions of hard copies alone will be deemed invalid.

b) The information of instructor(s) and participating student(s) cannot be changed after the deadline for the final Research Report submission.

c) It is possible for a student to participate in the competition of multiple disciplines, but one can only register in the competition of any discipline once.

d) If the participating team has submitted or published the same research report in other competitions, related information must be provided in the “research report submission” section during the account registration process.

e) If a final Research Report's percentage of similarity exceeds 10%, the Organizing Committee will disqualify the participating team. In the extreme case of full-text plagiarism, all the participating teams from the same school will be disqualified from the competition. In addition, the school and its act of blatant plagiarism will be publicly reported.

f) Research Reports selected for the National Final will be published on the official website for public review within a period of seven days.

Guidelines for Research Areas and Selection Criteria

Relevance to physics sciences

Originality in choice of subject for investigation and/or choice of techniques :

Subjects for investigation could be either original problems or existing conjectures. A participating team is responsible for adequate literature review on the background or originality of its problems. A problem known to the learned community in general, but unknown to the participating teams do not constitute originality. Your team can lecture on something relevant to the advances of physics for humanity in any timeline, ancient or recent

Creativity in problem solving and methodology :

Successful projects are expected to either develop new methodology or to synthesize existing techniques. A routine application of existing methodology may not be competitive. Professional equipment is often needed to respond to the proposed problem, when not applicable, we suggest creating, in practice, a study group for the dissemination of physics

Rigor in physics development :

Development of methodology and solutions are expected to demonstrate rigorous concepts and derivations

Contribution and potential to future physics development :

A project carries high merits if the results will induce other or further advance in physics sciences or if the methodology has potential for application in wider or other applications.

Scholarship and clarity of written report :

A report has to be well written, with an abstract in less than one page, review of the background problems and methodology, and citation of references. The report must also make clear distinction between background materials and original contributions.

If applicable, scholarship and clarity of spoken presentation :

An oral presentation should demonstrate the background of the problem, key background materials, and above all, the teams' original contributions.

If applicable, demonstration of teamwork :

In oral presentation, it is expected that every participating student will speak on behalf of the team in an organized manner.

Evaluation Mechanism

September – October: Divisional Competition

November: public review of Research Reports entering the National Final.

December: National Final and Award Ceremony

The National Final includes oral defense of the Research Report in English and will be reviewed by an international committee.

Public Review

The High School Physics Award is open to public review. Any organization or individual that objects to the qualifications of the teams entering the National Final may file a complaint, along with supporting evidence and contact information, to the Organizing Committee before the end of the seven-day period of public review. After receiving the complaint, the Organizing Committee will invite a team of experts to review the case. The Organizing Committee solemnly promises that information of the objecting organizations and/or individuals will remain confidential.

Disclaimer

The Organizing Committee High School Physics Award reserves the right to interpret the above entry guidelines.

This Award aims at stimulating the interest and creativity of high school students in conducting fundamental science research, discovering and cultivating young scientific talents, and enhancing the connection between secondary education and higher education.

The results of the Award is not directly associated with the future enrollment in higher education of any participating individuals.