# ADVANCED PHYSICS CLUB (APC)
# WELCOME LETTER

September 23, 2018

Dear All: Welcome to the SchoolNova Advanced Physics Club!
Below is some information about the club, which was discussed at the first meeting.

## General

This club is intended for high school students (grades 10-12) who enjoy solving challenging physics problems. It will not have a set curriculum; instead, we will be solving and discussing problems from various physics Olympiads and competitions from Physics Bowl to International Physics Olympiad (IPhO). There will be also some instructive sessions about various topics in physics, such as mechanics, thermal physics, electromagnetism etc. We expect students to know basic physics. In the club we will be applying this knowledge to solving elegant physics problems both simple and very challenging. The club will be run by faculty, postdocs and students from Stony Brook University, many of whom are former participants of IPhO and other high level competitions.

## Meetings

The club will be meeting weekly on Sundays at 2:40pm-4pm in room Math P131 in the Math building of Stony Brook University.

## Fees

The participation in APC will be free of charge for students. SchoolNova will initially cover all expenses necessary to cover rent, insurance, and other expenses for running the club. In future we will also be looking for other sources of funding.

## Web Page and contacts

All announcements and other information will be posted on SchoolNova web page:
https://schoolnova.org/nova/classinfo?class_id=adv_phy_club&sem_id=ay2018
Please, contact club organizers using e-mail: apc@schoolnova.org .

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Below we give an example of a relatively simple but elegant physics problem to give you an idea of the problems to be discussed in club meetings.

**PROBLEM**

The Engine's velocity is slowly increased until the dimes on A,B,C fly off the wheels. Which of the set of dimes flies off first? second? last?
The coefficient of friction between the dimes and the wheels is assumed to be the same for all three wheels.