

## 12<sup>th</sup> Asian Physics Olympiad, 1-9 May, 2011, Tel-Aviv, Israel

### Physics

7 May 2011, Saturday  
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What's on your mind?

#### News Feed

A well needed day of rest ▶ Tamar Amir



Yesterday, everyone was a winner! We had the chance to sleep in and catch up on much needed sleep, especially after the previous evening's high energy demands. "The kids were so tired when we came to the hotel," said Guide Salo, "but the Guides decided to make the best ever activity in the world. When the activity began, all the students made a switch and were filled with energy, cheering in their own languages." Super duper interactive cultural group activities saw their continuation the following day, what with incredibly fun and stimulating games split into stations on the grass by the hotel pool. Hands-on, static and dynamic, the activities were of a lightly competitive nature and had us extending both our bodies and minds, learning cooperation and communication in innovative ways. Methodical, strategic, memory-strengthening, and, above all, fun, our team efforts had us merging into pillars of supportive integration, cheering, screaming, laughing, falling and getting up again. Our active morning proceeded unto a relaxing afternoon, with plenty of free time and the opportunity to digest all of what we'd been exposed to throughout the week (as well as the mass-loads of food we'd munched on at close intervals). Saturdays are

meant for rest and amusement, so movie-going came as a perfect treat to end this week. Back in our beds, we laid our heads to calm the anticipation of our exam results, and dream the possibilities away...



## People You May Know

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### What were the highlights of the week for you?



**Ermek Belekov** ▶ **Kyrgystan**

Everything has been perfect...but I really liked the games—I never played such games. When I go back to Kyrgystan, I will play them with my friends and teach them to my brothers.

about an hour ago • [Like](#)

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**Ngoc Tra My Thanh** ▶ **Vietnam**

When I go back to Vietnam, I will remember all the fun activities, like rope games and memory games. I will also remember all the beautiful and interesting places we saw. I have gone to many countries, but Israel is the country I like the most.

about an hour ago • [Like](#)

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**Thomas Pearson** ▶ **Australia**

The highlight of the Olympiad was the feeling I had after finishing all of the exams—happy and relieved. That and the Dead Sea. It was also really nice to meet all the people from the different countries.

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## Yesterday's album

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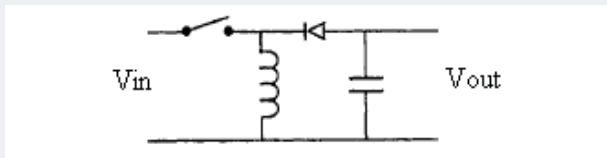
6 photos

In a famous dispute between Edison and Tesla, AC current won as the standard for energy transmission over DC because it is easy to change AC voltage with a coil transformer. However, the growing need for renewable energy sources and mobile electronics push the need for DC voltage converters.

One of the most ingenious designs is the buck-boost converter (fig. 1). Its principle of operation is analogous to mechanical strike, where a massive object is accelerated with a small force along significant distance and then smashed into a hard surface.

this type of designs is called a switching-mode power converter. When the switch is on (connected), the current in the solenoid grows linearly with the rate of  $V_{in}/L$ . When the switch disconnects, the current drops as it flows against the  $V_{out}$ , charging the capacitor. While the on-off switching operates, it may be seen as a "constant power" supply, regardless of output voltage.

The device was originally proposed for space applications, where size and weight are important constraints, and is a heart of most power conversion units in all consumer electronics today.



The switch on the scheme is being turned on and off electronically at high frequency (typically hundreds of KHz) as long as the output voltage is lower than desired. Because of that,

May 8 at 7:10am Like • Comment • See Freindship

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## Did you know?

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The fourth of April (4.4), the sixth of June (6.6), the eighth of August (8.8), the tenth of October (10.10) and the twelfth of December (12.12) in a given year, are always the same day of the week. John Conway, an American mathematician from Princeton University and a big fan of numbers, proposed a way of quickly calculating a day of the week for any Gregorian Calendar date.

According to Conway's "doomsday rule", the above dates are the same day of the week as the last day of February. 5.9 and 9.5 (9th of May and 5th of September), 7.11 and 11.7 (7th of November and the reverse, 11th of July) and obviously the "0th of March" will all be doomsdays. The remaining problematic part of this equation is January, which we'll be computing from the previous year.

For example, this year's doomsday is Monday, so if your birthday is on 21th of December, you know it is Doomsday+9 (same as +2) which gives us Wednesday.

Almost every year the doomsday increases by one, except the leap years in which it advances two days. So, next year "March 0" is going to be Wednesday.



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## 31 Today's Program

May 8, Sunday

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### Students

- 08:00-09:00 Transportation to Closing Ceremony
- 09:00-09:40 Explanation of ceremony procedure
- 10:00-12:30 Closing Ceremony [Performing Arts Center Herzliya](#)
- 13:30-14:30 Lunch "[Gadot on the Yarkon](#)"
- 14:30-15:30 Transportation to [Ramat Gan](#)
- 15:30-17:30 Farewell activity & summation of the Olympiad
- 19:30-20:30 Dinner "[Kfar Maccabiah](#)" hotel

### Leaders, Observers and Visitors

- 08:30 Transportation to Closing Ceremony
- 10:00-12:30 Closing Ceremony [Herzliya](#)
- 13:30-14:30 Lunch "[Gadot on the Yarkon](#)"
- 14:30-15:30 Transportation to [Crown Plaza hotel](#)
- 15:30-19:30 Free Time
- 19:30-21:00 Dinner [Crowne Plaza hotel](#)

## “” Sentence of the day

May 8, Sunday

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“VEAHAVTA LEREACHA KAMOCHA” This biblical golden rule simply states 'love thy neighbour as yourself'.

It is considered to be one of the most, if not most important part of ethics in most religions. It is used as a positive reminder to forgive others and always show kindness and mercy

about an hour ago [Like](#)

## Featured



Sundays Weather

Sunny

Max. Day Temperature 31°C

Min. Night Temperature 19°C

UV Index 10 Very High