



## Program תכנית הכנס

Bulletin of the  
ISRAEL PHYSICAL SOCIETY  
Volume 54, 2008





## **The Israel Physical Society**

President: Avishai Dekel (Hebrew University)  
Vice President: Israel Bar-Joseph (Weizmann Institute)  
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### **Council:**

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Michael Savin (Davidson Institute of Science Education)  
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### **Corporate members:**

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The Hebrew University of Jerusalem  
Israel Atomic Energy Commission  
Technion - Israel Institute of Technology  
Tel Aviv University  
Weizmann Institute of Science  
Ort Braude College  
College of Judea and Samaria



## IPS2008 Organizing committees

### Scientific

- Amnon Aharony, Ben Gurion University (chair)
- Rennan Barkana, Tel Aviv University
- Elisha Cohen, Technion
- Avishai Dekel, Hebrew University (IPS president)
- Yuval Garini, Bar Ilan University
- Michael Gedalin, Ben Gurion University (co-chair)
- Barak Kol, Hebrew University
- Oleg Krichevsky, Ben Gurion University
- Ron Lifshitz, Tel-Aviv University
- Israel Mardor, Soreq
- Zvi Rosenstock, RAFAEL
- Michael Savin, Weizmann Institute
- Dan Shahr, Weizmann Institute
- Yaron Silberberg, Weizmann Institute

### Local

- Amnon Aharony (chair)
- Michael Gedalin (co-chair)
- Doron Cohen
- Dan Rich (trade and job fairs)
- Shlomo Nahum (administration)

### Websites

- The IPS 2008 meeting site is designed and maintained by [Doron Cohen](#)
- The IPS registration site is designed and maintained by [Nir Shaviv](#)



Bldg. 73 – Zonnenfeld Hall (planery session)  
 Bldg. 90 – all other sessions  
 Bldg. 54 – Physics department

בניין 73 - אולם זוננפלד (התאספות)  
 בניין 90 - מקום הכינוס בהמשך היום  
 בניין 54 - בניין המחלקה לפיסיקה

**Food:**

**נקודות אוכל :**

1. mensa (students)
2. mensa (faculty)
3. Karnaf – salads, soups, sandwiches
4. Lemon grass – asian food
5. Aroma – coffee
6. Macdonald's – near Bldg. 90
7. Drink and food stands – Bldg. 90

1. מנזת סטודנטים בשרית - בנין 70
2. מנזת סגל בשרית - בנין 70 כניסה מזרחית
3. קרנף - בר סלטים ומרקים - בנין 28
4. למון גראס - אסייתי - בנין 32
5. ארומה - בית קפה - בנין 74
6. מקדונלד'ס - מתחם בנין 90
7. דוכני שתיה ואוכל – בנין 90



## From the president of the IPS

On behalf of the the Israel Physical Society (IPS), I wish to welcome all of us to the 54th annual General Assembly (2008), held this year in Ben Gurion University.

The IPS is a voluntary non-profit association which acts to stimulate physics research and education in Israel. Membership is open to all physicists, from Israel and abroad, including students and all those who conduct research and education in physics. An IPS membership carries partial memberships in the APS, EPS and CAP, involving reduced rates for symposia and subscriptions and eligibility to serve in their committees.

We are in a process of trying to revamp the IPS status and activity. Our aim is to make it a worthwhile organization for the benefit of our physics community, following the examples set by the APS and EPS while adding special features relevant to physics in Israel. Our current emphasis is on improving the content and format of our annual meetings, establishing IPS named prizes, solidifying the IPS magazine PhysicaPlus, upgrading the IPS webpage and creating a timely NewsLetter, setting up joint activities with sister societies in Israel and abroad as well as with the Israeli Academy of Sciences, and enlarging the body of IPS members both within the institutions of high education and among teachers and researchers in the industry.

On the administrative side, we are approaching the conclusion of the very long-term formal process of registration as a society and balancing our budget. Special thanks are due to our treasurer, Israel Mardor.

I would like to highlight our newly established IPS prize for a young physicist, being awarded this year for the first time. It is awarded to a physicist less than 10 years after the PhD, for research of special impact. The winner has been selected by a distinguished committee, based on nominations made by the deans/chairs of physics in the institutions of high education and the industry. The award is tentatively set to a starting sum of 10,000 shekels, and we are working on naming it and crystallizing the long-term funding for it. The aim is to make this the most prestigious prize for a young physicist in Israel, and we try to establish a sponsorship by the Israeli Academy of Sciences.

This is in addition to the existing prizes for physics graduate students, which we attempt to revamp as well. As a first step, one of these prizes is being named after our late member Ze'ev Fraenkel, for excellence in research in the fields of particle physics, nuclear physics and astrophysics.

The scientific organizing committee of IPS08, led by Amnon Aharony, has put together an exciting program. It includes three rich review sessions led by senior experts, following the format first introduced in IPS06 at the Hebrew University. Following IPS07 at the Weizmann Institute, the parallel sessions are organized along the lines of the APS March meeting, usually comprising of an invited talk followed by 10+2 minutes long contributed talks.

The IPS activities are managed by a council representing the member institutions. I

wish to thank each of the council members for their invaluable contributions to our current revamp campaign.

In order to allow all the above and more, the IPS needs your support. To begin with, by becoming a member and paying the annual fees. In addition, you can make an impact by encouraging all your associates to join the IPS, especially students. Finally, you are most welcome to participate in the council work, by contributing ideas for new initiatives or for potential funding sources.

I wish us all an enjoyable meeting, and a year of productive activity in physics research and education.

Avishai Dekel,  
President of the IPS

## IPS prizes

Three graduate students will receive the IPS prizes for 2008:

**Theoretical physics: Netanel Lindner** (Technion), for his excellent work on quantum information/Condensed matter theory, under the supervision of Prof. Assa Auerbach.

**Experimental physics: Shmuel Rubinstein** (Hebrew University), for his excellent work on Nonlinear dynamics, under the supervision of Prof. Jay Fineberg.

**The Ze'ev Fraenkel Prize** in Particle physics, Nuclear physics and Astrophysics: **Avi Shporer** (Tel-Aviv University) for his excellent work on Astronomy, under the supervision of Prof. Tsevi Mazeh.

The prizes will be awarded during the opening ceremony. All three students will deliver invited talks in the relevant parallel sessions.

**The new prize for a young faculty member will be announced at the conference.**





## Welcome message

Ben Gurion University welcomes the participants of the 54<sup>th</sup> annual meeting of the Israel Physical Society. Since the last annual meeting at BGU, there have been many changes on this campus. You already noticed the new train station and/or highway 6, which bring us closer to wherever you came from. You are all invited to visit our new physics building and the adjoining Ilan Ramon youth physics center, as well as the fabrication and atomchip labs in building 95. You can also see the new nano-center building, which will open soon next to the physics building.

Following the example of last year, we have also accepted all the contributed papers, with the only requirement that abstracts by students should be approved by their thesis advisors. We trust that this will establish a tradition, in which the IPS annual meeting is the place where faculty and students have a chance to advertise their work, meet their peers and exchange useful and stimulating information.

Following tradition, we also have three review sessions. The speakers in these sessions were asked to present reviews of their fields, at a level which can be followed by a general physics audience. Therefore, do not hesitate to join any of the three sessions, and learn about exciting new physics. Many parallel sessions also include invited contributions, mainly by young faculty members. We hope that this exposure will make these people better known to the community, and we wish them success. Three of the invited talks are given by the IPS student prize winners.

A few technical points: (1) all contributed talks are exactly 10 minutes long, with 2 minutes for discussion. Invited talks have 25 minutes. Please show up in the lecture room at least 15 minutes before your session, to coordinate your talk with the chair and the assistant in charge (BGU people have different badges). Also, please keep the schedule, so that people can move between sessions. (2) The poster session is on the second floor of building 90. Please place your poster at 11:00, and be around it during all the breaks. (3) As usual, we also have trade and job fairs. Please visit these fairs, so that they will be encouraged to continue this useful tradition. (4) Following the example of the APS, and in the interest of saving the environment, we avoided printing a full booklet of the abstracts. Those who have not printed the abstracts of interest before coming can still access this information via the conference web site, using the wireless connections or the terminals in both buildings (instructions available separately).

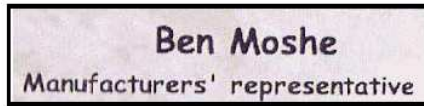
Many of you experienced some difficulties registering, because the new IPS website was not fully functional on time. On behalf of the IPS, I apologize for that. However, I urge all those who did not yet register and pay to do so immediately. Our small budget depends on your payments, and on these tough times we could not raise much other support. Hopefully, everything will work well for the next IPS meeting.

Many people deserve thanks. In particular, I am very grateful to Doron Cohen, who constructed the web page and helped with many other issues, Dan Rich, who organized the job and trade fairs, and Shlomo Nahum, who ran all the logistics at BGU. I also thank the session chairs for their help.

I wish all of us a stimulating and exciting meeting.

Amnon Aharony, Chair of the organizing committee

**Trade fair** – Lobby, 1<sup>st</sup> floor, Bldg. 90, 11:00 – 18:30



[www.benmoshe.net](http://www.benmoshe.net)



[www.easx.co.il](http://www.easx.co.il)



[www.ilphotonics.com](http://www.ilphotonics.com)



[www.lahat.co.il](http://www.lahat.co.il)



[www.ni.com](http://www.ni.com)



[www.newtech.co.il](http://www.newtech.co.il)



[www.roshelep.co.il](http://www.roshelep.co.il)



[www.SK-Advanced.com](http://www.SK-Advanced.com)



<http://www.modu-laser.com/RMphotonics.htm>



**Job fair** - Lobby, 1<sup>st</sup> floor, Bldg. 90, 11:00 – 18:30



[www.iai.co.il](http://www.iai.co.il)

**PHILIPS**

[www.medical.philips.com](http://www.medical.philips.com)



[www.rafael.co.il](http://www.rafael.co.il)