2009 PhysicsBowl Results

Dear Physics Teacher,

Thank you for having your students participate in this year's AAPT PHYSICSBOWL contest.

This year there were almost 4500 students participating from approximately 225 schools across the United States and Canada as well as a school in China. Enclosed are lists of the first and second place schools in each division and the first and second place students in each division by region. Several placings were determined by tie-breakers. For students, the answers were compared from the end of the test forward until the tie was resolved. For schools, the tie was broken by comparing the highest scoring students for each team. Unfortunately, we received many answer sheets which did not properly fill in the required information… which resulted in the student's score being made a zero in most cases. This is an unfortunate necessity because of the amount of data that must be analyzed and the large amount of time it takes to analyze.

This year, the following prizes are awarded:

- To schools:
    - $100 Frey gift certificate awarded to the schools placing first in each region and division from Frey Scientific.
    - $50 Vernier gift certificate awarded to the schools placing first *and second* in each region and division from Vernier Software & Technology
    - $25 AAPT Store gift certificate awarded to the schools placing first and second in each region and division.
- To students:
    - The book "Chasing the Rainbow" awarded to the students placing first and second in each region and division from Robert Greenler.
    - TI-30 XS MultiView Scientific Calculator awarded to the students and schools placing first and second in each region and division from Texas Instruments.
    - T-shirts awarded to the five top students in the top scoring school in each region from AAPT.

A copy of this year's test along with solutions, as well as individual and team winners can be found at the following web site:

<center>http://www.delta.edu/michaelfaleski/PhysicsBowl</center>

We look forward to having you participate in next year's contest… and please let your colleagues at schools near you know about the contest! We are considering how to expand the contest to include more schools and students next year as well as making some more changes with the contest to improve it.

Thank you for participating,

Michael C. Faleski
PhysicsBowl Academic Coordinator
Physics Department – Delta College
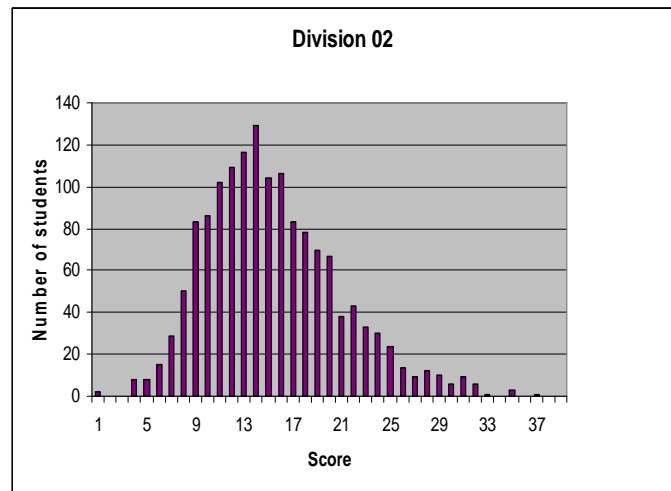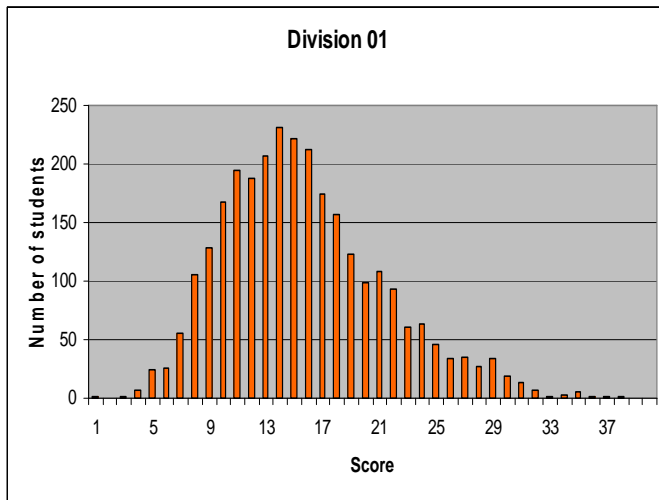University Center, MI 48710
michaelfaleski@delta.edu

The enclosed sheets give the school's team score and pertinent information obtained from each student's answer form. It should be noted that some time was taken this year to add students that improperly filled out the form to the school report. Some students were able to be fairly well identified and added to the school report, but these students were not counted in the official tally for team or individual awards. While it is unfortunate to disqualify anyone, these are the rules of the contest. We can attempt to locate an unofficial score for missing students… please email michaelfaleski@delta.edu with student information (CEEB, teacher codes, etc.). Those using WebAssign will be able to see their students' *unofficial* scores online.

Statistics for exam

Average Score for Division I = **15.7** with a standard deviation of 5.7
Average Score for Division II = **15.3** with a standard deviation of 5.5

**** The production of a challenging contest of only 40 questions so that scores are not concentrated at the upper end of the scale is an enormous task. This exam was of comparable difficulty to previous exams and had a higher average than last year's contest.

** Are you interested in helping to prepare next year's contest?!?!
Ways in which you can help…
1. You can send 5 multiple choice problems that you use on your exams to be considered for use on future contests. The questions can be of any level and topic. Please email them to michaelfaleski@delta.edu .
2. You can participate in the writing/editing of the exam. If you are interested in this task, please contact me at my email michaelfaleski@delta.edu and I'll be happy to discuss the process with you.
3. You can send suggestions about how to improve the PhysicsBowl. The PhysicsBowl Advisory Group will be meeting to discuss the future of the exam at the summer AAPT meeting. We already have several things that we are considering, but we'd love your ideas.

Top *Division 01* student

03	38	**Wang, Jixuan**	Don Mills Collegiate Inst.	Toronto	ON

Highest Scoring *Division 01* Students in each Region

<u>Reg</u>	<u>Score</u>	<u>Student</u>	<u>School</u>	<u>City</u>	<u>State</u>
02	*36*	**Lim, Jeffrey**	Arlington HS	Arlington	MA
03	*38*	**Wang, Jixuan**	Don Mills Collegiate Inst	Toronto	ON
04	*37*	**Chen, Amy**	Millburn HS	Millburn	NJ
05	*30*	**Kim, Minsu**	Woodberry Forest School	Woodberry Forest	VA
06	*31*	**Krehbiel, Karl**	West Shore Jr/Sr HS	Melbourne	FL
07	*35*	**Kuo, Enoch**	Revere HS	Richfield	OH
08	*31*	**Bach, Diana**	Chelsea School	Chelsea	MI
09	*35**	**Wagner, Michael**	Vernon Hills HS	Vernon Hills	IL
10	*28**	**Berger, Seth**	Marshfield High School	Marshfield	WI
11	*30*	**Zhang, Leon**	Oak Ridge High School	Oak Ridge	TN
12	*30**	**Shi, Xiao**	St. Louis Univ. HS	St. Louis	MO
13	*34*	**Chen, Kevin**	William P Clements HS	Sugar Land	TX
14	*36*	**Zhou, Leo**	Scripps Ranch High School	San Diego	CA
15	*35*	**Sun, Hanguang**	Shanghai Normal University	Shanghai	China
20	*32*	**Dodd, Kunwoo**	Oklahoma School Science/Math	Oklahoma City	OK

Second Highest Scoring *Division 01* Students in each Region

<u>Reg</u>	<u>Score</u>	<u>Student</u>	<u>School</u>	<u>City</u>	<u>State</u>
02	*31*	**Gonsiorowski, Erik**	Arlington HS	Arlington	MA
03	*30**	**Pinter, Frank**	Smithtown HS	Saint James	NY
04	*33*	**Leichter, Evan**	Millburn HS	Millburn	NJ
05	*29*	**Lokshin, David**	Thomas S. Wootton HS	Rockville	MD
06	*29**	**Silverman, Bradley**	Centennial HS	Roswell	GA
07	*31*	**Mintun, Peter**	Hawken School	Gates Mills	OH
08	*30*	**Frame, Maxwell**	Chelsea School	Chelsea	MI
09	*35*	**Politakis, Alex**	Libertyville HS	Libertyville	IL
10	*28*	**Zhang, Lihua**	Lourdes HS	Rochester	MN
11	*28**	**Killian, Pat**	Montgomery Bell Academy	Nashville	TN
12	*30*	**Lepage, Will**	Helias HS	Jefferson City	MO
13	*29*	**Carlsten, Scott**	Los Alamos HS	Los Alamos	NM
14	*35**	**Zhang, Qiuyi**	University HS – Irvine	Irvine	CA
15	*34*	**Ma, Kai**	Shanghai Normal University	Shanghai	China
20	*31**	**Luo, Peter**	Oklahoma School Science/Math	Oklahoma City	OK
	*32***	**Radek, Alex**	Bergen County Academies	Hackensack	NJ

* = place determined by tiebreaker
** placed in wrong region initially

PHYSICSBOWL 2009

Top *Division 02* student

02	37	**Zheng, Haotian**	Newtown High School	Sandy Hook	CT

Highest Scoring *Division 02* Students in each Region

Reg	Score	Student	School	City	State
02	37	**Zheng, Haotian**	Newtown High School	Sandy Hook	CT
03	27	**Gao, Han**	Don Mills Collegiate Inst.	Toronto	ON
04	32	**Zhu, Michael**	Ridge High School	Basking Ridge	NJ
05	31	**Liang, Jonathan**	Thomas S. Wootton HS	Rockville	MD
06	29	**Sawyer, Eric**	Brookwood High School	Snellville	GA
07	31*	**Gerson, David**	Hawken School	Gates Mills	OH
08	29	**Li, Jimmy**	Northville High School	Northville	MI
09	30	**Awni, Hani**	Libertyville High School	Libertyville	IL
10	26	**Douglas, Daniel**	Arrowhead High School	Hartland	WI
11	30	**Liu, Xinran**	Oak Ridge High School	Oak Ridge	TN
12	26	**Yang, Xiaoyu**	East High School	Cheyenne	WY
13	35*	**Zhang, Mark**	William P Clements HS	Sugar Land	TX
14	32*	**Jong, Jason**	Arcadia HS	Arcadia	CA
15	29	**Turzillo, Alex**	Tigard High School	Portland	OR
20	33	**Gan, Edward**	Montgomery Blair HS	Silver Spring	MD

Second Highest Scoring *Division 02* Students in each Region

Reg	Score	Student	School	City	State
02	35	**Kong, Brian**	Milton Academy	Milton	MA
03	26	**Hu, Albert**	Northern Secondary Academy	Toronto	ON
04	31	**Modi, Shyam**	Princeton High School	Princeton	NJ
05	28	**She, Suyan**	Thomas S. Wootton HS	Rockville	MD
06	28	**Philip, Timothy**	Parkview High School	Lilburn	GA
07	31	**Huser, Brian**	Hawken School	Gates Mills	OH
08	26	**Li, Yingxue**	Carmel High School	Carmel	IN
09	29	**Candocia, Max**	Vernon Hills High School	Vernon Hills	IL
10	24*	**Strom, Mark**	Century High School	Rochester	MN
11	28	**Sastry, Rahul**	Montgomery Bell Academy	Nashville	TN
12	25	**Harvey, Chris**	Heritage Hall School	Oklahoma City	OK
13	35	**Baty, Austin**	Martin High School	Arlington	TX
14	32	**Wang, Joshua**	Scripps Ranch High School	San Diego	CA
15	26	**Bravo Iniguez, Alfredo**	Bishop Kelly High School	Boise	ID
20	32	**Jung, Jinwoo**	Science Academy of S TX	Mercedes	TX
	32**	**Humanik, Peter**	Bergen County Academies	Hackensack	NJ

*place determined by tiebreaker

** placed in the wrong region initially

American Association of Physics Teachers
PHYSICSB**O**WL 2009

Highest Scoring *Division 01* School

04	165	**Millburn High**	Millburn	NJ

Highest Scoring *Division 01* Schools in each Region

Reg	Score	School	City	State
02	145	**Arlington High School**	Arlington	MA
03	135	**Don Mills Collegiate Inst**	Toronto	ON
04	165	**Millburn High**	Millburn	NJ
05	137	**Thomas S. Wootton HS**	Rockville	MD
06	129	**Brookwood HS**	Snellville	GA
07	143*	**Revere HS**	Richfield	OH
08	142	**Chelsea School**	Chelsea	MI
09	154	**Vernon Hills HS**	Vernon Hills	IL
10	122	**Lourdes HS**	Rochester	MN
11	136	**Oak Ridge HS**	Oak Ridge	TN
12	143	**St. Louis University**	St. Louis	MO
13	136	**William P Clements HS**	Sugar Land	TX
14	158	**Arcadia HS**	Arcadia	CA
15	164	**Shanghai Normal University**	Shanghai	China
20	144	**Oklahoma School of Science/Math**	Oklahoma City	OK

Second Highest Scoring *Division 01* Schools in each Region

Reg	Score	School	City	State
02	132	**Guilford High**	Guilford	CT
03	130	**Smithtown HS**	Saint James	NY
04	142	**Ridge HS**	Basking Ridge	NJ
05	136	**Woodberry Forest School**	Woodberry Forest	VA
06	122	**West Shore Jr/Sr HS**	Melbourne	FL
07	143	**Hawken School**	Gates Mills	OH
08	136	**Carmel HS**	Carmel	IN
09	141	**Libertyville HS**	Libertyville	IL
10	112	**Whitefish Bay HS**	Whitefish Bay	WI
11	128	**Montgomery Bell Academy**	Nashville	TN
12	128	**Helias HS**	Jefferson City	MO
13	112	**St. Mary's Hall School**	San Antonio	TX
14	154	**University HS – Irvine**	Irvine	CA
15	130	**New Westminster Secondary**	New Westminster	BC
20	137	**Stuyvesant High School**	New York	NY

* place determined by tiebreaker

Highest Scoring *Division 02* School

20**	149	**Bergen County Academies**	Hackensack	NJ

Highest Scoring *Division 02* Schools in each Region

Reg	Score	School	City	State
02	110	**Newtown HS**	Sandy Hook	CT
03	94	**Don Mills Collegiate Institute**	Toronto	ON
04	131	**West Windsor - Plainsboro HS S**	Princeton Junction	NJ
05	125	**Thomas S. Wootton HS**	Rockville	MD
06	123	**Brookwood High School**	Snellville	GA
07	137	**Hawken School**	Gates Mills	OH
08	111	**Carmel HS**	Carmel	IN
09	133	**Libertyville HS**	Libertyville	IL
10	108	**Arrowhead HS**	Hartland	WI
11	106	**Oak Ridge High School**	Oak Ridge	TN
12	101	**Clayton High School**	Clayton	MO
13	142	**Martin High School**	Arlington	TX
14	132	**The Harker School**	San Jose	CA
15	112	**Western Canada HS**	Calgary	AB
20	143	**Montgomery Blair HS**	Silver Spring	MD

Second Highest Scoring *Division 02* Schools in each Region

Reg	Score	School	City	State
02	108	**Milton Academy**	Milton	MA
03	90*	**Victoria Park Collegiate Institute**	Toronto	ON
04	128*	**Princeton High School**	Princeton	NJ
05	98	**Boonsboro HS**	Boonsboro	MD
06	121	**Parkview HS**	Lilburn	GA
07	100	**Beavercreek High School**	Beavercreek	OH
08	95	**East Lansing HS**	East Lansing	MI
09	128	**Vernon Hills High School**	Vernon Hills	IL
10	105	**Edina Senior High School**	Edina	MN
11	73	**Montgomery Bell Academy**	Nashville	TN
12	83	**Heritage Hall School**	Oklahoma City	OK
13	130	**William P Clements HS**	Sugar Land	TX
14	101	**Stevenson School**	Pebble Beach	CA
15	93	**Bishop Kelly HS**	Boise	ID
20	129	**Science Academy of S TX**	Mercedes	TX

* place determined by tiebreaker
** placed in the wrong region initially