Fall, 2025

Issue 60

Long Island Physics Teachers Association Newsletter

Important Dates

Fall Conference	**Sat Oct 25**
Physics Olympics	**March TBD**
Spring Conference	**Sat Apr 18**
AP 1	**Wed May 6**
AP 2	**Thurs May 7**
Physics C Mechanics	**Wed May 13**
Physics C E & M	**Thurs May 14**
AP/IB Physics Analysis	**Sat May 30**
Regents Physics Exam	**Thurs Jun 25**
End of year Picnic	**Mon Jun 29**

President's Message

Across Long Island, cell phones are rapidly disappearing from high school classrooms. Districts are responding both to state legislation requiring "bell-to-bell" restrictions on smartphones and to growing concerns about distraction, focus, and student wellbeing. But as these policies take hold, it's worth asking how they affect us as physics teachers—especially since many of us have found clever ways to use phones as tools in the lab.

Most districts have rolled out new policies. Locust Valley has reportedly gone all-in on a cell-phone-free school day, expanding from middle school into the high school. They've reported fewer confiscations and fewer discipline problems tied to phones, as well as more face-to-face interaction among students. Manhasset has allegedly adopted a policy requiring phones to be stored in lockers, and Sayville claims to have set up cubbies in classrooms so devices are out of reach but still under supervision. Smithtown and Riverhead are also moving toward full-day bans, using storage solutions like pouches or lockers, at least in the middle schools.

The idea is straightforward: students shouldn't be texting, scrolling, or gaming when they're supposed to be learning. And according to research from Europe and other U.S. districts, bans can improve test scores (especially for students who struggle most with distraction) and help teachers maintain a calmer classroom. On Long Island, while hard data from high schools is still scarce, middle school experience shows clear drops in phone-related infractions once restrictions are put in place.

Of course, any teacher who has tried to enforce a phone rule knows that consistency is everything. A policy that's applied in one class but not the next, or a policy where there are no repercussions quickly loses credibility. Districts using physical storage—lockers, cubbies, or locking pouches—say this helps take the burden off teachers and reduces the temptation for students to sneak quick glances under the desk. Locust Valley's phased approach, with clear communication to parents and students, is said to have built stronger buy-in and made enforcement smoother.

Still, enforcement isn't effortless. Teachers worry about losing instructional time to phone policing, and administrators are overtaxed. Parents worry about communication during emergencies, and students sometimes push back. The state mandate includes exemptions for medical needs and emergencies, but schools are still working out the practical details.

This raises a question close to home: how do we, as physics teachers, feel about losing phones as tools in the lab? Many of us have leaned on apps for

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timing, slow-motion video, or sensors for sound and acceleration. With phones locked away, are we losing a flexible, accessible measurement device? Or does this push us back toward more traditional equipment and perhaps more focused lab design?

It may be that districts will allow structured use of phones under teacher supervision for instructional purposes, or that physics teachers will need to adapt labs to non-phone tools. Either way, it seems worth having a conversation across our community about what's working, what's missing, and how we can keep labs engaging without undermining the spirit of the new policies. Come to our next conference and discuss your experience with teachers from other school districts.

STEP-UP Community Opportunity

STEP UP is a national community of physics teachers, researchers, and professional societies. We design high school physics lessons to empower teachers to inspire students to pursue physics in college.

Join STEP UP in January 2026 as a STEP UP advocate. Advocates teach the two STEP UP lessons and can earn $750 as a part of the advocate program. For more details go to: https://engage.aps.org/stepup/home

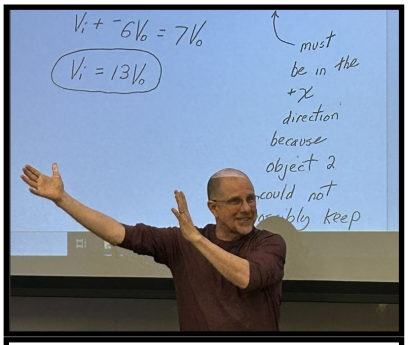
Need CTLE credits?

- Fall and Spring Conferences
  (3 credit hours for each conference)
- AP/IB Physics Exam Analysis
  (3 credit hours)

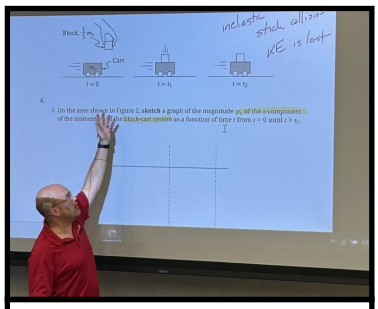
CTLE Certificates are available.

AP/IB Physics Analysis and Discussion

Teachers gathered at NYIT on Saturday, May 31, to discuss the AP and IB Physics exams. Rich Slesinski began by reviewing solutions to the AP C Mechanics exam. The general consensus was that the test was reasonable, and participants exchanged ideas on how to better support students in preparing for it. One suggestion regarding the experimental design questions was to advise students to initially skip the design portion and focus on the second part of the question, which typically involves more analysis and problem-solving. This approach often helps students concentrate on the elements necessary for designing an effective experiment.

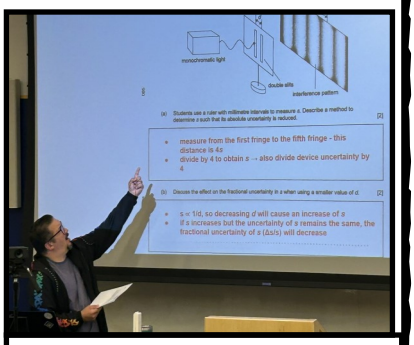


Rich Slesinski analyzing Mechanics C



Joe Rodichok analyzing AP 1

Joe Rodichok then presented his solutions to the AP Physics 1 exam. The group agreed that this exam was also fair and less time-consuming than previous versions. Justin King followed with a review of the Standard Level IB exam. Although few teachers at the meeting currently teach the IB curriculum, it was still insightful to explore the unique structure and style of its questions.



Justin King analyzing IB exam

Rich Slesinski returned for an encore to cover the AP C Electricity and Magnetism exam. He offered a clear explanation of Gauss's Law and highlighted select portions of the exam.

Special thanks to Dr. Roger Yu, Chair of the Physics Department, who welcomed us to the NYIT campus and provided tasty treats for all participants. We also appreciate the participation of Professors Chinmoy Bhattacharjee and Stan Silverman in the day's event.

2025 AAPT Summer Meeting: Highlights

by Carissa Guiliano

The 2025 American Association of Physics Teachers Summer Meeting was held in Washington, D.C. on August 4-6. High school physics educators, college/university physics educators, and physics education researchers alike shared ideas to spread our knowledge and love of physics to one another. I also attended the Physics Teacher Education Coalition (PhysTEC) Workshop two days prior to the official start of the AAPT meeting.

The PhysTEC Workshop was extremely informative. The workshop's primary focus was on discussing resources to help educators collaborate with one another and promote physics in their communities. Some of these resources include the Knowles Teaching Fellowship, Physics Teacher Resource Agents (PTRA), QuarkNet, and STEP UP (some of which may sound familiar to you!). I found that the most valuable part of this workshop was talking to other high school physics teachers about how they run their classrooms—from how they offer test corrections and encourage every voice to be heard, to how different states and schools set and evaluate physics standards. One idea I learned to keep serial hand-raisers in check is to give all students two "talking chips" at the beginning of class. Once they're out of talking chips, they can no longer answer questions! This can also be modified so that all students *must* use both chips, to encourage participation.

Then, the official AAPT conference started. There were many sessions to choose from, appealing to all groups in attendance. I attended workshops on PhET simulation updates, student empowerment, the StellarXplorers competition, use of sports-related concussions as an anchoring phenomenon for a force/momentum unit, low-cost physics labs, and even medical physics. For those who do not know, PhET is releasing new simulations like the Projectile Data Lab that incorporate real-world "messiness" and data analysis. LIPTA's very own Richard Slesinski gave an excellent talk titled "*More 'There Are Two Types' Activities as Examples of NGSS Based Practices,"* which shared activities that support a more engaged, NGSS-aligned classroom. Plenary talk topics included nanoscale electronics, cultivating a sense of belonging, the power of mentors, quantum mechanics, and connecting physics education communities.

My biggest takeaway from the conference is how fortunate we are to have an organization like LIPTA. Other teachers I spoke with expressed a desire to connect with local physics teachers, and are now trying to establish LIPTA-like groups in their regions. We are lucky to have an already thriving resource and community in LIPTA. For anyone interested, I highly recommend attending an AAPT Summer or Winter Meeting. I came away with not only practical ideas I can implement immediately, but also a sense of rejuvenation toward my own physics teaching career and an appreciation for the quality of collaboration I enjoy with other physics teachers.

Musings from the Cheap Seats

by Ed McDaniels

After forty years in the classroom, I now enjoy the luxury of sleeping late and not staying up into the night grading labs. I don't miss the endless lesson prep, but I do miss the energy and curiosity of young minds.

One of the strengths of LIPTA is the mix of seasoned veterans and newer teachers still finding their footing. With that in mind, I'd like to share a few thoughts from my own journey. Some may strike you as useful reminders; others may simply affirm what you already know.

Let's start with the basics: *what are you?* You are a teacher—not only of physics or any other subject, but also a living model of what it means to be a responsible, caring (and yes, imperfect) adult. Standing in front of a classroom puts you under a magnifying glass. Dozens of eyes are on you—watching on your best days and your worst. Over time, your true character shows through.

In my district, where I both lived and taught, I had the privilege of running into former students for decades afterward—as parents and even as grandparents. They rarely mentioned Ohm's Law or equations, but they remembered how they felt in my classroom: safe, respected, and valued. They recalled the jokes, the laughs, and the kindness.

To be clear, I was not an "easy" teacher. For many, I gave the lowest grade on their report card. But I was consistent in expectations, supportive when they needed help, and, I hope, always fair. Of course, there are moments I'd take back—times when I fell short. That's part of being human.

One piece of advice for today: resist the temptation to blur the line between teacher and friend, especially on social media. Students don't need another friend—they need a steady adult presence. After graduation, feel free to accept a "friend" request, but not before. I used to joke when asked my first name: "It's Mister. I already have two friends, and you're not on the waiting list." Harsh, perhaps, but it made the point. Be friendly, yes—but also maintain that healthy boundary.

Instead, build connection by showing genuine interest. Early in the year, I had students complete an information card with their hobbies, interests, and plans. That gave me entry points to link physics lessons to their lives. Relevance matters. With today's curriculum, that connection is easier to highlight than ever.

Physics, in particular, is all around us. Everyday experiences—from microwaves to snow driving—offer natural teaching moments. I loved asking, "Why can't you make toast in a microwave oven?" Simple, but unforgettable. Before the first snowfall, I'd review the physics of road conditions, banking curves, and hydroplaning—lessons that could literally save lives. One former student told me that, for over 30 years, he's thought of my class every time he saw a "Bridge freezes before roadway" sign. I can think of worse legacies.

So I leave you with this question: **What will your legacy be?**

Do you have any comments, information, or tips to share for future newsletters? Send it via email to: *keogh@lipta.org*

Did You Know …

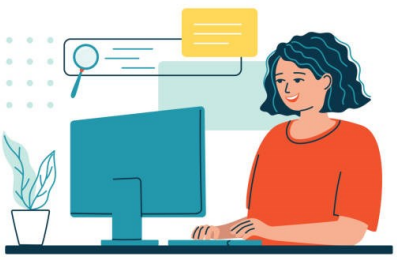
by Harry Stuckey

Did you know that Nobel laureate George Smith died on May 28? If you are scratching your head over that name, don't feel bad -- I didn't recognize it either. But George was a very bright guy. He earned his PhD in 1959 from the University of Chicago with a dissertation only eight pages long. That same year he joined Bell Labs in New Jersey and worked there until his retirement in 1986. During that time, he was awarded dozens of patents, including one for his Nobel-winning invention.

George and his Bell Labs colleague William Boyle earned shares of the 2009 Physics prize for work begun in 1969. At the time, they were working on a proposed video phone--then called the PicturePhone--and developed the first successful imaging technology using a digital sensor. Their concept utilized the photoelectric effect in a novel way. During a one-hour brainstorming session at a chalkboard (remember, this was 1969), they theorized that electrons dislodged from metal surfaces by light could be directed and stored thus leading to an imaging semiconductor circuit. Incoming photons would release electrons in photocells that could be stored via capacitors (the pixels). The number of electrons collected would be directly proportional to the intensity of the light. Those stored electrons could be used with semiconductors to build an image of the incident light when the number of electrons in each pixel is measured, and the scene could be reconstructed. A patent for this technology was registered in 1974.

Unfortunately, the PicturePhone project was cancelled because it was not deemed "commercially viable" in the short term, but the technology was soon adapted for other uses. In fact, I wager that everyone reading this has used a gadget based on this technology--the charge-coupled device (CCD)--because digital cameras, including cell phone cameras, utilize CCDs to produce color pictures. As CCDs are about 90 times more sensitive to light than photographic film and span the entire electromagnetic spectrum, astronomers were among the first to recognize their potential for imaging and spectroscopy. The life sciences and medical fields use CCDs in microscopes and for internal imaging. Barcode scanners employ CCDs to read product information quickly and accurately. CCDs are also used in optical character recognition document scanners, some security cameras, and industrial quality control. And, ironically, we can now make video phone calls thanks to CCDs. Not bad spin-offs for a cancelled program!

Check the
LIPTA website
www.lipta.org
for any updated
information.



LIPTA Fall Conference
Saturday, Oct 25
Commack HS
8:30-Noon

NYSSLS LABS

The conference will include three lab sessions designed to align with the new standards set by New York State.

Time	Activity
8:30	Registration and Breakfast
9:00	Welcome
9:15	NYSSLS Labs Session 1 Sara Whitaker, Bill Leacock, Diana Nigro
10:00	Break/Networking
10:15	NYSSLS Labs Session 2
11:00	Break/Networking
11:15	NYSSLS Labs Session 3
12:00	Adjourned

3 CTLE credits available

Only fifty NYSSLS lab setups will be built by our LIPTA team.
Register early—supplies are limited.

- Current Members: **$15** – Conference registration only
- Current Members: **$30** – Conference registration and one set of NYSSLS Lab equipment
- Non-members: **$30** – Conference registration only (includes 1 year membership)
- Non-members: **$45** – Conference registration and one set of NYSSLS Lab equipment (includes 1 year membership)

All registration costs increase by $5 after October 18

Register at lipta.org