

Greetings from Lund, Sweden!

In case you're new to this, whenever I travel with Team USA, I send out a short daily update on our adventures. What began as a way to reassure parents that their kids were still alive has grown into a broader, slightly snarky travelogue. I try to focus on the students, though occasionally I (and my neuroses) make a guest appearance. Feel free to share this with whomever you like — and if you'd rather not receive these updates, just let me know.

Travel Day: Shockingly Smooth

On Friday night, I met up with Noreen, Brigitte, Diesel (aka Val), Peter, and Jimin at the Philadelphia airport. Everyone arrived early and in great spirits. We breezed through check-in, security, and even baggage drop. With two hours to spare at the gate, we relaxed before our 6.5-hour nonstop flight to Copenhagen.

Upon arrival, we sailed through customs, retrieved our bags, and were out of the airport in record time. I can only hope Philly is this smooth on the way home. Hands down, this was the easiest travel day I've ever had. Shoutout to @AmericanAirlines and especially our flight attendant John — you're the real MVP.

Guess Who's Carl?

While we waited at baggage claim, I challenged the students to guess what our Swedish student guide, Carl, would look like. Guesses varied wildly, but one entry truly stood out — in all the wrong ways. Brigitte (pronounced *Brig-Jet* by her friends, No-No and Molly) envisioned Carl as a bald, tatted-up, ex-military guy in his forties who looked like he moonlighted as a bouncer.

Actual Carl: 16 years old, blonde, blue-eyed, 5'10", and speaks better English than I do. His mom is British, his dad is Danish, and he lives in Sweden — a Euro trifecta. He speaks English with friends, Swedish with one parent, and Danish with the other. Strangely, he claims he picks up a British accent at home out of sympathy for his mum. Honestly, the kid's an international legend.

Carl met us at the airport, got us on the correct train to Sweden (yes, it's a thing), and delivered us to our hotel. Instead of the usual university dorms, this year all student teams are staying in a hotel — a first for IYPT. Compared to last year's dorms (dirty, hot, no A/C, and conveniently located over a 2 a.m. outdoor beer garden), this place is luxury. Or at least, "Motel Lund" luxury.

Dinner and Swedish Culture

After freshening up, we ventured into downtown Lund — which feels a lot like Newark, DE. There's a charming square, an old cathedral we'll tour later, and three falafel trucks within spitting distance. We bypassed those for "Pizza Bodega," a name that promised Hispanic flair but delivered goat-milk mozzarella pizza and cabbage pizza which was really a salad made of

cabbage and no dressing. The “chips and dip” turned out to be fresh potato chips with Hidden Valley-style ranch. Not fancy, but delicious and student-approved.

Social Media School with Brigette

At dinner, Brigette gave me a crash course in social media to help grow our Instagram presence for @IYPT_USA. She currently boasts 503 followers. We, the proud national physics team, are at a mere 100. My new goal: beat Brigette before the week is out.

I've already posted three times today, complete with captions that don't appear in these emails. One post was apparently so spicy that Diesel Val refused to be tagged — she fears it might get banned. I'm skeptical, but you'd better check it out just in case. First five people to like and repost the post get a Swedish souvenir!

Post-Dinner Reflections

We got the kids settled in for the night, and then Noreen and I debriefed in the lobby over drinks — half a Swedish IPA for me, something non-alcoholic for her. Noreen is not just a fantastic travel companion, she's the kind of person who makes everything easier. She doesn't know much about physics, but she knows everything about people. She's my safety net — the backboard to my off-the-mark shots — and I'm so grateful she's here. I hope her family (husband Rich, an IYPT alum from 2017, her sister, and her dad Joe) are holding things down back home, because I really need her here.

True to form, Noreen asked, “In an ideal world, what would your role in IYPT look like?” I told her I'd love to focus on the physics — mentoring, prepping, debating. But someone has to manage the funding, logistics, team selection, and paperwork just to keep this train on the rails.

So, here's my five-year vision, and maybe if I put it out into the universe, it will happen by the time I am ready to retire.

“I want to build a fund that guarantees no student ever misses IYPT due to finances. I'm not good at fundraising, and it takes time away from our prep. I want to tell students across the country: if you're good enough to make the team, we'll get you there. Worry about the science — not the money.”

That's all for tonight. Follow us on Instagram @IYPT_USA and share our story. And if you happen to know a benevolent corporation with deep pockets and a soft spot for science, send them our way.

More tomorrow —
Bill

Team USA in Sweden: Day 2 – Bacon, Bergman, and Bribery

Hello again, and welcome to Day 2 of Team USA's noble quest to conquer the scientific world, one awkward buffet interaction at a time. Today's update will be on the shorter side, because—honestly—it was a day full of logistics and prep. Not the most glamorous material, but still a critical part of the journey.

Breakfast Report: Bill Approved

We began with breakfast in the hotel lobby, which featured the usual suspects: juice, coffee, fruit, breads, and pastries. But let's pause to appreciate the bacon. It was, without exaggeration, the best bacon I've ever had. Perfectly crisp, full of flavor, and cooked to a doneness level that would make Gordon Ramsay nod approvingly. I don't know if this is just how they do bacon in Sweden, or if our chef is a magician—but it was a high point.

Meanwhile, Peter and Jimin don't "do breakfast," which is going to make this week... interesting. Peter may have a bit of a buffet phobia. If that's the case, he's in for a tough ride, because when you're feeding 400 people, you're not getting à la carte. By the end of the week, Peter may be the leanest he's ever been—Team USA: powered by nerves and intermittent fasting.

The Real Judge of IYPT: Bill's Stomach

Let's be honest: your kids will judge this week by the stories they'll bring home—there'll be highs, lows, and unforgettable moments. But I'm old. And old people judge by two things: food and accommodations. So far, Sweden is crushing it.

Practice Makes (Swedish) Perfect

After breakfast, we held a slide run-through from 9:00 to 11:30 a.m. Each student had to present within the 12-minute time limit. Ivey and Peter struggled, but for opposite reasons. Peter's issue? Let's just say he suffers from *verbal abundance*. Ivey, on the other hand, is deliberate—methodical—even poetic, but time waits for no physicist.

Ivey has over 40 slides, each one packed with heavy-duty math. I told her that spending a full minute explaining every term wasn't going to fly. So I made her a deal: if she finishes under 11:30, she earns an *Ingmar Bergman*.

What's an Ingmar Bergman, You Ask?

Let me explain. In the U.S., our money features dead presidents and founding fathers—usually depicted in their distinguished-but-decrepit years. In Sweden, it's a different vibe. Their banknotes feature absolute icons in their prime. Their equivalent of the \$10 has Ingmar Bergman (young, brooding, and dramatic), and the \$20 showcases Greta Garbo (glamorous enough to melt glaciers). These aren't just currencies—they're crush-worthy collectibles.

So yes, I bribed Ivey with a hot young Bergman. And it worked. We trimmed her slides, practiced transitions, and talked about showing the math *without* explaining every detail. I told her: if someone doesn't get it, that's their problem. She seemed energized by the challenge.

Registration, Swag, and Schnitzel

At 11:30, we walked into town for official registration. The students got swag bags filled with t-shirts, chocolates, water bottles, and IYPT-themed backpacks. Memories are great, but souvenirs are tangible. Win-win.

Lunch was at a charming little restaurant called **SMAK O SNAB**. Despite emphasizing pizza on the marquee, no one ordered pizza. Our choices from the menu featured schnitzel, Swedish meatballs, a fish taco, and a dish simply titled “the vegan.” The food was genuinely excellent, and the kids enjoyed the chance to eat outside in the sun. We still haven’t had falafel, but it’s only a matter of time.

Quote of the Day:

Carl, our trilingual guide and cultural ambassador, responded to Noreen’s question—“What’s something Americans don’t understand about Swedes?”—with:

“Y’all have an exaggerated sense of how much we love meatballs.”

Lobby Practice & International Mingling

After lunch, it was back to the hotel for more practice. By now, other teams had arrived and the lobby was buzzing. Our students chatted with the teams from Austria, Croatia, and Pakistan (fun fact: the entire Pakistani team are U.S. citizens). It was a nice mix of cultural exchange and friendly competition.

Dinner was a two-option delight: vegetarian chili or a chicken curry rice bowl. Both were tasty, healthy, and—much to my wife’s delight, I’m sure—a significant upgrade from my recent late-night pizza diet. Honey, I think I’m going to come home skinnier and more nutritionally enlightened.

Garbo Gambit and Buttered Noodles

After dinner, everyone walked back to the hotel—except Brigitte, who joined me for an organizational meeting. The room was packed with over 100 students and mentors. I told Brigitte she’d earn a *Garbo* (yes, a signed 20) if she asked a question in front of the whole room. I felt confident my cash was safe—she gave me a look that said, “absolutely not.”

This reminded me of a simpler time when I used to bribe my daughters to try new foods. A dollar worked until I convinced Madi to eat squid. She liked it—until I told her what it was. Then she promptly threw up and never trusted me (or my food-based economy) again.

Final Push

Back at the hotel, the students kept practicing into the night. I left them at 11:30 to take a quick shower and fill you in on what's poppin in Lund.

Tomorrow's a big day: opening ceremonies and our first "fight" (the scientific debate kind, not the UFC kind). Things are about to get real!

Thanks for following along. If you read this far ... join my @IYPT_USA on Instagram. I am gaining on Brigette, but I need a boost!

More tomorrow —

Bill

Team USA in Sweden: Day 3 – Meatballs, Mistakes, and Mayhem

Hello everybody — fresh dispatch from Sweden coming at ya!

It's late, I'm tired, and this day was a long one. I'll try to keep this brief... but we both know that's not really my thing.

Late-Night Rave? Nope, Just Sweden.

Let's start with last night. There was a *party* happening somewhere in this hotel. Noreen and I did a little investigative work and confirmed it wasn't our students — not because they were asleep, but because they were too busy obsessing over their slides to waste time on something as frivolous as fun.

As for me, I struggled to sleep. Thankfully, my wife insisted I bring earplugs — and in a rare display of wisdom, I actually listened. Reader, they saved my life.

Opening Ceremony Bingo: Complete

After another solid breakfast (yes, the bacon is still phenomenal), we headed to the opening ceremony. Noreen asked me what to expect, and as a five-time IYPT veteran, I nailed it:

- A few long-winded speeches by sponsors? ✓
- Some politicians in suits talking about “youth innovation”? ✓
- A folk dance troupe doing acrobatic knee-crushers to accordion music? ✓✓

The kids weren't super into it... until a 50-year-old Swedish man did push-ups that ended with mid-air claps. Suddenly, there was interest. My knees hurt just watching him. Frankly, I think he was just showing off because I know exactly zero 50-year-old men who would attempt that willingly. Present company very much included.

The Tree of Fate (and Fertility?)

After the performance, team captains walked on stage to pick tiny Christmas trees wrapped in Swedish flags. Each one had a number on the bottom revealing our round-one opponents.

We drew **Fight Group 4**: Croatia, New Zealand, and Australia. That's a heavyweight lineup — all three are frequent medal winners. There was real concern that we might get steamrolled.

Small side note: turns out, it *wasn't* a Christmas tree. According to Swedish tradition, it was a *fertility statue*. So, congrats to Brigette — her parents can rest easy knowing future grandchildren are secured. Science and legacy, all in one trip!

Meatballs for Lunch (Again)

We broke for lunch before our first fight. The menu? Swedish meatballs, mashed potatoes, lingonberries, and peas. I'm starting to see why people *think* Swedes are obsessed with meatballs — it's not folklore, it's meal planning.

Instagram Scandal: Ho Hysteria

Before I get to the fight, a small social media misstep: Brigette has been teaching me “the Gram,” as the youths call it. Today, I decided to fly solo. Big mistake.

My daughter Alex asked to be on the email list and forwarded it to her college roommate Ruby, who immediately followed @IYPT_USA (which, by the way, YOU should do too). I saw Ruby's icon pop up and clicked something — unknowingly “liking” a song recommendation she'd posted. Apparently, the song in question features “entrepreneurial women” working a corner.

Now I look like I'm stalking my daughter's roommate *and* curating a very questionable soundtrack. Brigette knows how to undo the like but is withholding that information. Sabotage in plain sight.

Fight Time: Let's Get Ready to Rumble

Round 1: Opposing New Zealand

Val was up first. Our strategy was to have her oppose problems we *hadn't* prepared. Why? Because Val can win an argument about nearly anything (as her parents probably know), and this might encourage future opponents to challenge us on problems we *have* practiced.

Val chose Problem 8: *Levitating Liquid*. We saw it during the Germany scrimmage and she felt good about it. She launched her attack from a seated position, legs crossed, radiating confidence like she was reading the Sunday paper.

“Can you clarify?”

“I'm not sure I agree with your analysis here...”

“What do you mean this region *can't* exist?”

The New Zealand presenter began to unravel. Eventually, the judge asked Val to *please stand* — because while it's one thing to dismantle the opposition, it's another to do it while lounging like you're solving Wordle. Final scores: 5s and 6s — a rock-solid start.

Round 2: Reporting – Brigitte vs. Air Muscle

We were challenged on *Dripping Faucet* — hard pass. Then came *Air Muscle*, and Brigitte jumped in. Five minutes to prep. Just enough time to hook up the device, tweak a few things, and deal with some ping pong paddle-related shenanigans (don't ask).

Brigitte was calm, clear, and deflected challenges with grace. Some hits, some misses, but a strong overall performance. Final score: consistent 5s. For context, that would've been our second-highest score *last year*. I'm so proud of her — she came out swinging.

Round 3: Review – Peter and the Midnight Panic

Now it's Peter's turn to review. Keep in mind: Peter didn't sleep last night. Around 2 a.m., I received 14 texts from him — all about a tragic slide error requiring a full rebuild. At lunch, he took a 20-minute power nap (photo evidence available).

Despite the exhaustion, Peter was a rockstar. His review was clear, coherent, and cohesive. He wove the conversation into a strong narrative for the judges, earning scores of 6, 7, 8... and one 4 (courtesy of the Russian judge, because of course).

That 8? Highest score of the day. We leave Fight 1 ranked **24th in the world**. Four more fights to go — but things are looking up.

Dinner, Falafel, and Farewells

Dinner included our long-awaited falafel... which was underwhelming. Sorry, Sweden. You had me at bacon, but lost me at chickpeas.

I spent another two hours working on slides afterward (probably more for the students). It's now 1:00 a.m., and I am *done*. Tomorrow we have our second fight — plus opening ceremonies are behind us, so the real fun begins.

Thanks for following along —

Bill

PS: I have to throw some shade at my Octorara family. Not once has one of my peers from Octorara or my friends from tennis/golf shown up to watch a fight. Not even one family member. However, Jimin showed everyone up when his parents arrived in Lund Sweden to pop in and watch a fight. Thankfully for Jimin he did not have to present while his parents were sitting there. But there is always tomorrow!

Here's your **Day 4 update** — polished for clarity and grammar, with the original humor intact (and a few extra dashes added). As always, it reads like a brilliant blend of *travelogue meets sitcom with a physics subplot*. Enjoy!

Team USA in Sweden: Day 4 – Spoons, Sabotage, and Second Scoops

Alright folks — welcome to Day 4 of Team USA's Swedish saga. Today was a little less chaotic than yesterday, but still packed with drama, physics, and unexpected spoon-related grievances.

Breakfast Breakdown: The Spoon Scandal

You know things are going well when your team's biggest complaint at breakfast is... cutlery. Our fearless captain (who shall remain nameless but rhymes with *Frigette*) started the morning off by lamenting that the hotel spoons were too large, resulting in a minor yogurt-to-lip ratio issue. A real crisis.

Val, being Val, chimed in to inform us that the **modulus of elasticity** of the spoon's steel was displeasing when it contacted her teeth. (Honestly, I didn't even know we were rating cutlery on mechanical properties now.)

Jimin, always the ride-or-die, declared he would no longer eat breakfast until this "tragedy" was addressed. And Peter? He just went back to bed. I think I've lost control.

Meanwhile, I'm starting to feel like Rodney Dangerfield. I wonder if this kind of feedback happens in the NovaCare complex under Super Bowl-winning coach Nick Sirianni. Doubtful.

Oh — and one last note: Peter puts **sugar** on his tomatoes. If anyone out there is part of this "candied tomato underground," now's your time to speak up.

Clarifications & Confessions

Brigette has informed me that it's simply *too much effort* to forward these emails to a certain young man from a neighboring school. She requested that I add him to the distribution list directly. Naturally, I asked questions.

Spoiler alert: this is **Brigette's "special" young man**, the one who's been losing sweatshirts to her all year. I now have his email, and yes, I plan to use this information strategically. Brigette recently told me that No-No and Mo-Mo advised her to *stop telling me things*. Fortunately, she seems unable to resist. Advantage: McWatters.

Fight 2: May the Best Nerd Win

Let's talk about the actual reason we're here: physics.

Our first fight of the day had us reviewing a presentation by Taiwan — last year's silver medalists, and, spoiler alert, they're even better this year. Not quite Singapore-level terrifying, but close. Brigette took the review role and, with input from her teammates (thanks to a system we built post-fight), held her own. Her average score was a 5 — respectable, though she was hoping for more. I was proud. She wanted fireworks; I saw a solid team effort.

Next up: we opposed the Swiss team.

Fun twist: our three girls are sharing a room with one of the girls from the Swiss team. Last night, said Swiss roommate casually asked if we could give her a heads-up on which problem we'd be opposing. Cute try. This morning, it was Valerie Jeanne going head-to-head with her own bunkmate. Game. On.

Val suspected a cold was being strategically shared through the room — **biological sabotage?** Jury's still out. Regardless, Val *obliterated* the Swiss report. I don't use that word lightly. The presentation was effectively vaporized. She walked off disappointed with her 5.3 average, but the Swiss scores were significantly lower. Might be time to retire "Diesel" and start calling her **EI Tigre**.

Enter: Ivey Wang

Next up: Ivey's debut. If you're wondering why I haven't mentioned Ivey much before, it's for two reasons:

1. She's quiet. Very quiet. The odds of her voluntarily giving me her boyfriend's contact info are **zero**.
2. She only started her problem about 3–4 weeks ago.

Since we landed in Sweden, Ivey's been working almost exclusively on her slides. She's had no time to sightsee, critique breakfast metals, or weigh in on international spoon standards.

The problem she tackled is **one of the hardest we've ever attempted**. She had to build a deep mathematical model, write MATLAB code to generate numerical solutions, and then delve into chaos theory — basins of attraction, phase plots, fractals, Lyapunov exponents. Six weeks ago, she hadn't even heard those terms.

Huge thanks to Dr. Eschenazi, Chair of Physics at St. Joe's, who generously served as our unofficial consultant (aka: I asked nicely, and he agreed). He's been Zooming with Ivey and me 2–3 nights a week for the past month.

Also worth noting: Ivey only moved to the U.S. from China in September. Her English is excellent, but delivering a dense, technical talk under time pressure was a new challenge. Hence the **Ingmar Bergman** bet from Day 3.

Well, she nailed it. Ivey *earned* that Bergman. A picture is coming tomorrow. She didn't get the 8s and 9s she hoped for, but her score put us squarely in line with last year's all-star squad from Budapest.

Fish, Ice Cream, and Freedom

The kids were spent after the fight, so the afternoon was meant for recovery: lunch (salad, potatoes, fish), then a scavenger hunt around Lund. Dinner? Fish, beets, and potatoes — again. We've entered the *root vegetable loop*.

I cut the kids loose to enjoy a few hours without me hovering. In return, they took full advantage — and after a long walk in Sweden's blazing 70°F heat, we treated them to ice cream. Peter asked, "Can we try a second place for comparison?" The answer, obviously, was **yes**.

Within 15 minutes, we were double-fisting cones at ice cream shop #2. Pear and vanilla won the day, with caramel vanilla as the respectable runner-up. Noreen even led a formal taste-review session. Science, but make it dessert.

Looking Ahead: Enter the Thunderdome

Tomorrow is a big day. Jimin and Peter are almost guaranteed to see action — their problems represent 80% of our available presentations. It's time for someone new to step into the Thunderdome.

Big thanks to Jimin's parents, who are treating the team to dinner tomorrow night. The group is very excited for a meal that does *not* feature beets or Baltic fish.

Final Thoughts: Jackets, Ties, and Chocolate Bribes

At the end of the day, the kids had some thoughtful (and totally not financially ruinous) suggestions for improving the IYPT experience:

1. **Matching outfits** like the Polish team. Apparently very intimidating.
2. **Sport coats** with different colored ties for each fight. (Not gonna happen. Sorry, gang.)
3. **Better post-match gifts.** We've tried flags, pins, NASA spaceships — nothing hits. This year we're going with *Hershey's bars*. It's regional, it's edible, it's American.

But if you have better ideas for what to give a 16–18 year-old physics-loving, international travel-worn teenager after a debate on fluid dynamics, **please** let me know. I am stumped.

That's all for now —
See you tomorrow,
Bil

Team USA in Sweden: Day 5 – Math, Mayhem, and a Steakhouse Salvation

Today was Day 5 in Sweden — the day that really separates the physics fans from the fearless. We had two fights on the schedule: a **manageable match in the morning** and an **afternoon matchup of doom**. If the right problems were selected, we could solidify our position. If the wrong ones came up... well, let's just say there was a non-zero chance we'd be laughed out of the tournament and banned from returning.

No pressure!

Team Status: Exhausted at Breakfast

Before diving into fights, let's rewind to breakfast.

The kids showed up looking like they'd survived a night in a centrifuge. We had two matches and six more rounds ahead, and already we were dragging.

Jimin, under duress, brought back a glass of orange juice. Peter — who I *specifically* told to go to bed — had instead pulled an all-nighter tweaking slides. Zero hours of sleep for our big guy.

Brigette barely looked up from her plate. It was unclear whether this was sleep deprivation or if No-No and Mo-Mo had reprimanded her again for oversharing. Meanwhile, Val looked pale and miserable, announcing she was definitely getting sick and possibly couldn't eat. Only Ivey smiled — the serene joy of someone who had presented her problem yesterday and was now *done*.

Breakfast: ✓

Team morale: ⚡

Blood pressure: 🚨

Fight 3 – A Sigh of Relief (Eventually)

Our morning match was against Sweden and South Africa. Both teams were cool — I've even shared a beer with the South African coach in the lobby, so I'm biased.

We challenged Sweden first:

- Dancing Slinky? Reject.
- Wirtz Pump? Reject.

- Sound vs. Fire? Reject.
- Paper Boomerang? Reject.

Sweden had now rejected six problems and was on the verge of taking a deduction. Everyone in the “middle of the pack” zone is terrified of penalties. We *should* have been better prepared — but here we are.

We finally challenged **Quantum Fingerprint**, which they accepted. Problem: Val had **no prep at all** for it. She’d never researched it, and everything she knew came from watching one student’s 12-minute presentation under duress.

But **Val did what Val do**.

She leaned on generic strategies I had taught her for sounding informed when you are, in fact, not informed — a skill I’ve honed for decades. Noreen texted me during the fight to say, “I keep hearing your voice coming out of Val’s mouth.”

“Why would you want to do that?”
“What happens at the extremes?”
“That doesn’t sound right — do you have evidence?”

Val went full mini-me — and crushed it. She received the **highest scores of the week** and the best since the legendary Poyraz review of 2024. Incredible.

The “Please Don’t Kick Us Out” Math

Next, we had to report. We had solutions for 3 problems... and 7 we’d have to reject. If we rejected too many, we’d be penalized. Reject six in a row and we’d be disqualified.

But I’d run the stats. The chances of rejecting six straight were under 1%. The math said we’d be fine.

Then came:

- Paper Boomerang? Reject.
- Dripping Faucet? Reject.
- Rayleigh-Bénard Levitation? Reject.
- Levitating Fluids? Reject.

Now it's four in a row and I'm sweating. The kids are pale. But then... **Ruler Cannon**. They picked one we could do. Val's up again.

She presents her very first IYPT problem — a creative but imperfect take on the challenge. There were issues with the apparatus and analysis, but Val and her South African opponent had possibly the most polite conversation of the week. It was like watching tea-time diplomacy. Her score? A solid **5**. Not the 9 she wanted, but we'll take it.

Brigette Weaves Words, and the USA Wins

Next up: Brigette, reviewing *Sound vs. Fire*, a problem we *almost* finished before arriving.

She puts together a beautiful review — part summary, part commentary — and lands a **5.25**, helping **Team USA win our Round 3 match** and climb back into 24th place.

At this point, I stepped out to calculate our next steps. Based on how many problems we had left and the probabilities of various selections, I calculated a **50% chance we'd take a penalty** in Round 4 — but only a **1% chance of total disqualification**.

Lunch Fail and the Trash Can Incident

Lunch was... rough. A boxed chicken salad wrap that tasted nothing like chicken salad. I ate three bites. Val, unfortunately, ate the whole thing and promptly felt queasy.

Now, if I were a warm, compassionate coach, I would've sent her to rest or sent Noreen for ginger ale. Instead, I asked the organizers for a lined trash can to put by her feet in case she needed to puke *during her presentation*.

Listen, I'm not saying I'm proud of that — but Val didn't throw up, so I'm calling it a win. And then... **Val did what Val do. Again.**

Fight 4 – Secret Weapons and Showdowns

We were teetering on the edge: one more rejection and we'd face penalties — a first in Team USA history.

The Koreans were opposing us — and, naturally, speaking Korean. What they didn't know: **our secret weapon** is Jimin, whose mom is Korean and whose dad has worked in Korea for years. The kid is fluent.

Jimin overheard their plan:

"Let's try to pick something they have... maybe not Sound... what about Climbing Magnets?"

And with that, **Climbing Magnets** it was. Jimin stepped up.

It wasn't our strongest problem — Jimin had done all the work himself over the past 5 weeks with me shipping equipment and meeting via Zoom. But he was solid. His theory was strong, his understanding deep, and when the Korean team tried to hijack the presentation, he shut it down with:

"Can we get back to discussing *my* research instead of yours?"

Mic drop. Solid scores. Mission accomplished.

Peter the Synthesizer and Val the Warrior

Peter was next — reviewing *Levitating Fluids*, a problem we hadn't touched. But Peter has found his niche: he's become our **review specialist**. He crushed it again.

Then came our final fight of the day — against Team Poland (2024 Finalists and wearers of intimidatingly sharp outfits). We challenged *Dancing Slinky*, and they accepted.

Enter: **Val**, sick, exhausted, and still holding her puke bucket.

Poland's solution was brilliant, but Val absorbed every blow. She even put down the bucket mid-debate to gesture more forcefully. She scored a **very respectable 5.25** — against a top-five team.

We didn't win the match, but we **survived**. We climbed another spot in the rankings, and if things go perfectly, we may just earn our **highest finish ever** — with the **youngest team we've ever brought**.

Watch out, Switzerland. Don't let us get hot.

Steak, Tiramisu, and Sweet, Sweet Relief

After 10 grueling hours, two matches, and a bout of food poisoning, **Jimin's parents** took the team out for a well-earned dinner. No fish. No beets.

Just:

- Steak for nearly everyone.
- Bruschetta for the table.
- Tiramisu shared by the girls.
- A brief, well-earned nap for Peter.

It was the perfect end to a whirlwind day. I've got photos, but I'm too tired to post them. You'll get them later, I promise.

What's Next?

Tomorrow is our excursion day (a.k.a. mandatory fun). The final fight is Friday... I think. I've completely lost track of what day it is.

More soon —

Bill

Team USA in Sweden: Day 6 – Vikings, Licorice, and the Mystery of “Talking To”

I *definitely* don't have as much to say today. I promise.

No, really.

The Day of No Physics (and Questionable Candy)

By design, Day 6 of the tournament is always an off-day. After yesterday's double fight — a 10-hour gauntlet of science, stress, and near-vomit — everyone needs a break. This is the host city's chance to show off its local flavor with a cultural field trip.

Today's excursion: a **Viking museum**. On paper: very cool. In practice: longer than a three-hour Marvel movie with no popcorn.

The museum had a mock Viking village, complete with longhouses, workshops, and opportunities to experience “Viking life” firsthand. We explored Viking crafts, peeked into ancient kitchens, and then moved on to the “Viking games”:

- Log toss (basically caber toss)
- Tug of war
- Axe throwing
- Archery
- A rowing game I can only describe as *Viking CrossFit*

I skipped the rowing game — my back has been acting up after so much time sitting in the jury. (Physics: more dangerous than it looks.)

We were at the museum for **five hours**. I repeat: *five*. This event should've been 90 minutes with a nice lunch after. Let's be real — when was the last time you voluntarily spent five hours in a museum without a paycheck attached?

Cultural Observations from the Viking Age

1. Physicists are not athletic people.

I always thought of myself as moderately athletic — tennis, golf, baseball — enough to pass for coordinated. In this crowd? I'm a unicorn. Apparently, being able to throw an

axe *and* derive a differential equation is an extreme rarity.

2. **Swedes have incredibly long attention spans.**

The Viking “battle reenactment” included about **30 seconds** of action, followed by **30 minutes** of dialogue about a Danish heir, a stolen throne, and a treacherous uncle. Spoiler alert: it wasn’t great. Shakespeare would’ve passed.

3. **Swedish licorice is an abomination.**

Noreen bought some to share with the kids. Each of them tried it. Each of them **spit it out**. Naturally, Noreen doubled down, offering it to every other participant and mentor at the museum just to watch their faces. She laughed like a Bond villain. I love having her here... but she might be unwell.

Field Yoga, Nap Time, and a Sunburned Scalp

To help with my back, I decided to do a little yoga on a grassy patch by the Baltic Sea. I went through my downward dogs, my savasanas, and, of course, my personal favorite: **corpse pose** — which transitioned seamlessly into a one-hour **nap**.

Unfortunately, I did this in the sun. So now my bald dome is glowing **beet red**. The kids also got a little too much sun. If I were a better team leader, I would’ve remembered sunscreen. Instead, I brought... Viking energy.

Dipping Toes and Teenage Drama

After lunch (served at the museum, not memorable), we headed to a nearby **Baltic beach**. I offered a dollar to anyone willing to go in. Ivey and Val accepted the challenge and waded up to their knees — making the three of us the only U.S. participants to technically “swim” in the Baltic. Victory!

The rest of the group relaxed on the sand and... talked about life. Most of the conversation centered around a phenomenon I’ve recently learned about: “**talking to**” someone.

From what I can tell, this is a pre-dating stage — a vague liminal space between casual texting and emotional investment. Apparently, **Jimin** is in this zone. The team spent a great deal of time unpacking the drama involved in simply *getting* to “talking to” status. I promised to protect his privacy, but honestly, it sounds like modern relationships have more steps than a differential equation.

Other Highlights from the Day

- **Noreen is everyone's favorite confidante.**
She reminds me of my Aunt Chris — people just start talking to her. One particularly grumpy couple at the beach was appalled to find 400 students there. Why? Apparently, they normally swim there **nude** — alone. So, question of the day: *If no one is actually nude, is it really a nude beach?* Deep thoughts.
- **The Swedish Massage Conspiracy.**
My back hurt, so Noreen suggested I get a massage. Logical. But here's the twist: they don't **do** Swedish massages in Sweden. They do **Thai** massage. We both agreed it might be hard to explain why we took a group of high school students to a massage parlor on their free afternoon, so... we won't be doing that!
- **The Austrians don't know how to relax.**
About 30 minutes into beach time, the Austrian team started a group **ab workout**. Like, full-on crunches — with named variations. Within minutes, 40–50 students were doing synchronized abs. These people are terrifying.

Wrapping Up

We ended the day with ice cream (standard Team USA recovery protocol), then returned to the hotel for dinner and a final prep session for tomorrow's big fight. I had about **three hours of meetings** with the students who will be presenting. Everyone **promised** to go to bed early tonight.

Of course, I've learned not to expect that from Peter.

Tomorrow: the last presentations, a cultural trip to Copenhagen and hopefully fewer sunburns. I'm off to post some pictures and crash for the night.

More tomorrow —

Bill

Team USA in Sweden: Day 7 – Big Brains, Big Scores, and Bigger Smiles

I'm starting this recap earlier than usual because — *finally* — we wrapped up the tournament this morning and spent the afternoon just... having fun.

As I write this, there are over 100 kids packed into the hotel lobby, doing what they haven't had a chance to do all week: just be kids. No slide reviews. No jury feedback. No stress. Just poker, Uno, and some chaotic social game Peter's playing with the Taiwan team that's allegedly called **Assassin** (or something equally dramatic). I overheard an in-depth debate about **cyberstalking etiquette**, which — oddly — felt like a wholesome break.

Noreen and I stayed in the middle of the action for a while, watching this wonderful, nerdy ecosystem unfold, before we realized we were cramping their vibe. We slipped away — and honestly? I don't mind not staying up past 2 a.m. for once. I'm sure Noreen doesn't miss watching me triage physics slides on zero sleep either.

It does feel a little bittersweet. We worked so hard to get here, and now we're already packing up. But maybe that's part of the experience too: learning fast, living fully, and then letting go just as quickly.

One Last Breakfast, One Last Fight

By now, breakfast is a ritual.

Noreen and I show up early. Ivey, Brigette, and Val follow shortly after — eating sensibly, discussing how they feel. Val always says she's fine (she will never admit weakness), Brigette is unusually quiet (not a morning person), and Ivey just smiles, often teasing me about all the mayhem she plans to cause (spoiler: she won't).

Then the boys arrive — late, sleep-deprived, and unfed. On brand.

And then... we're off to our **final fight**.

Fight 5: Show Your Best

In this round, each team picks its own presentation — the goal is to show off your strongest work. The risk? You might be forced to oppose something you've barely looked at. Adaptability is key.

First Up: Spaghetti Accelerator (Val)

This is, hands down, our strongest problem. In it, you shove a stick of dry spaghetti into a bent

tube, and it snaps and launches out the other end at surprising speed. The challenge: explain why, and prove you know how to optimize the result.

Val absolutely delivered. Her presentation was smooth, confident, and flawlessly timed. She earned a **6.4 average** — the **second-highest report score** I've seen in my years with IYPT. The only person to score higher was Baggett in 2019, and the next closest was Colin Murphy — also 2019. Pretty elite company.

As for me? I'm clearly not qualified to judge this team. I told Noreen I was expecting 5s — but when the judges held up 7s, I *audibly gasped*. Val turned to me and beamed. That one moment — that *smile* — made the entire journey worth it.

Next: Water Rocket Review (Peter)

No one worked harder in Sweden than Peter. He has a drive and attention to detail that's unmatched. Though he didn't get to present his problem, he made massive contributions as a reviewer — completing three reviews, each better than the last.

He was our **rock**, and we would not have succeeded this week without him.

Finally: Wailing Bowl Opposition (Brigette)

None of us had completed Wailing Bowl. That was Poyraz's project — an alum from last year — but he couldn't make the trip. Brigette prepped using his work, reports from other teams, and some deep digging of her own.

Until now, **Val had done every single opposition** — part of a new strategy that built strength through repetition. But today, I wanted Brigette on the mic.

Why? First, her past work on resonant plates aligned with this topic. Second, she has a deep background in both **physics and music theory**, and this problem required connecting both. She nailed it — delivering an opposition with depth, clarity, and poise. Her scores were excellent.

Final Numbers and Big Wins

Team USA's final fight score: **36 points**

That number meant **three things**:

1. We finished **closer to a medal** than ever before.
2. We **won two separate rounds** — a first.
3. We scored the **second-highest point total** in US IYPT history.

And all of this with the **youngest team we've ever brought**.

Every single student is eligible to return next year. If we can keep this group together, we're going to make a serious run at a **top-10 finish**. A medal is within reach.

What matters most, though, is that they walked out of today's fight room with **joy**. Sure, we could've scored a point higher here or there — but that's not what stuck. They felt *proud*. They felt *seen*. And the U.S., with its "ragtag" team of six brilliant teenagers, is going home ranked **22nd in the world**.

Yeah — I'll take that.

Post-Tournament Fun: Copenhagen Calling

After the last fight, we hopped a train to **Copenhagen** for a well-earned day of freedom. The kids roamed the city — shopping for souvenirs, visiting museums, laughing in the streets — while Noreen and I sat at a sidewalk café, eating lunch and finally exhaling.

It was simple. It was peaceful. It was perfect.

Looking Ahead: One Last Dance

Tomorrow is the **finals** and the **closing ceremony**. Tomorrow night is the **Gala Dinner** — food, celebration, and dancing.

For the record: **I will not be dancing**.
But the kids? They're going to have a blast.

Coming Home

We fly back home **Sunday morning**.
Tired, sunburned, a little sick of meatballs — but full of stories and pride.

Thanks for following along.
McWatters OUT.

Team USA in Sweden: Day 8 – Medals, Music, and Midnight Sweat

This is going to be a short one — I've had a *very* long day, and we have to be up at **3:45 AM** to get Ivey to the airport. Sleep is a luxury we've long abandoned.

Finals, Closings, and an Unexpected Medal

We were up at **6:30 AM** and on the tram by 7:20, headed to the finals. As expected, **Singapore** took first place, followed closely by **China, Germany, and Slovakia**.

After a quick boxed lunch (standard IYPT fare), we went straight into the **closing ceremony**.

Historically, this has meant:

- Gold medals for finalists
- Silver for the next tier
- Bronze for third
- Participation certificates for the rest

But this year, they added a new category: **Honorable Mention**, for the teams that just barely missed bronze — **and it came with a medal**. It's silver in color, so Val has declared that in certain company, it's perfectly fine to call it a **silver medal**. And honestly? I'm not going to correct anyone.

Gala Night: Fine Dining and... Jumping?

After the ceremony, we moved on to the **closing gala** — a proper sit-down dinner followed by three straight hours of what I can only loosely define as “dancing.”

The food was excellent. The conversation was even better.

But the dancing? That wasn't *dancing*, at least not by 1990s high school standards. It was **jumping**. Wall-to-wall, pulse-pounding, sweat-drenched **jumping**.

Val, ever the observant one, noted that with everyone's arms in the air, the **underarm proximity situation** was... unpleasant. Especially from her height.

Still, not a single student wanted to stop. They jumped. They laughed. They lived.

That's all for tonight. Tomorrow I'll write a proper **epilogue** — but that's a tomorrow problem.

Time to catch what little sleep I can.

Bill

So after a long week I like to reflect on our team, how much I enjoyed them as young people and what I learned from the experience.

First, our team was awesome!

Bridget as captain was rock I could depend on. She supported her team at all times, prodded them when necessary and pushed back on me, when she thought I was wrong. She is exactly who I needed in that spot. Not only was her understanding of science a requirement but her leadership was key.



Peter Hu has a motor that I just cannot truly appreciate. He worked tirelessly throughout the week. He simultaneously had less sleep than anyone else while also napping almost all the time. Peter may be the most talented on the team. He is an accomplished photographer, rubic cube expert, virtuoso in Chinese singing and a physics student to be admired.



Ivey Wang is an exchange student from China studying in Princeton. She is only a freshman but has a mastery of calculus and physics that perhaps no one else on our team can claim. Ivey has a lot of talent and you will be hearing from her again.



Jimin Wachovec surprised all of us. He did all of his work by himself. His physics teacher was unaware of this program and provided Jimin no support other than normal teaching. Jimin completed his work by himself on the kitchen table over the last few months leading up to the tournament. He has a lot of talent, and while I am not sure he knows where he is going to direct that talent yet, I look forward to finding out.



Valerie Wakeman is a rock star. Her ability to speak firmly and clearly about complex topics, some one which she does not completely understand herself, is a skill that distinguishes herself from almost every other student I have worked with on this team.



One of my favorite parts of connecting with other teams is asking about their selection process and funding situation. The differences are striking—and, not coincidentally, the teams with serious infrastructure are the ones you'll find at the top of the rankings.

Take Germany, for example. Their country, about the size of New England (NY, PA, MA, ME, NH, and VT), boasts twelve regional science centers. Each of these is staffed by several teachers and support personnel. These centers select their top five students (from thousands of hopefuls), and the resulting 60 students attend a national selection event. From there, twelve are chosen for a month-long boot camp, where the top five make the national team and the next three join the JV squad to compete in tournaments around Europe. When they show up at the tournament, their entourage includes six “fight assistants”—alumni now studying physics in college—and three professors, all to support five students. Not exactly flying solo.

In Thailand, the government provides a \$150,000 budget for the team, covering support staff and stipends for supplies. Their support crew even included two college professors who attended purely to help out.

Poland has gone a step further by purchasing a science center with on-site sleeping quarters. Students who commit to the program spend every weekend—and the entire month of June—prepping together under one roof.

China, Singapore, Taiwan, Korea, and all the other “big dogs” enjoy substantial government funding, and it definitely shows.

Meanwhile, I’m aware that we’re unlikely to see that level of support from our own government, nor are we likely to find students willing (or able) to devote themselves to physics alone. The strength of American education is its breadth: our top students are also athletes, musicians, school leaders, and resume-padding club members. In Pakistan, by contrast, students are so focused on getting into American colleges that they study only English, math, and physics—for ten hours a day.

All that said, I’m convinced we can climb the rankings with just a little earlier organization and a much-needed infusion of funds. This year, our funding wasn’t finalized until June 16th. If we could raise \$25,000 before September, we could advertise to students that, if they have the brains and commitment, they can be part of Team USA. This would broaden our applicant pool and let us focus on physics—not paperwork—as the tournament approaches.

For context, the first time Team USA met as a full team was in Sweden. The first time they had an in-person “fight” was at our first international match. Our online scrimmages helped, but it took several days to figure out how to really work together. Next summer, I’d love to have the team gather in Philadelphia for two days before the tournament, practicing skills, building team cohesion, and maybe even learning each other’s names. (All of which, naturally, requires funding.)

Attached you’ll find a one-page article summarizing our students’ experience, along with a more detailed three-page document outlining our financial needs. I’ll be spending the next few weeks trying to get this plea in front of as many STEM organizations as possible.

Ultimately I am not looking to have my Facebook Friends or my distribution list fund team USA. That is simply unfair to you and unsustainable for TEAM USA. But if you work for an organization that depends on students learning STEM fields please forward this fundraising request to anyone in your organization who might consider supporting Team USA. And even your organization wont support team USA perhaps you are friends with someone that may. In any event, please pass this along to anyone sympathetic to our cause!

Signing off for 2025,

Bill McWatters, Leader for Team USA