CAMB STUDENT NEWSLETTER

Volume 10 // Issue 4 // Nov 2025

In This Issue:

Letter From The Editors:

Dear CAMB Students, Faculty, and Alumni,

Happy fall! We are excited to share with you the November 2025 installment of the CAMB Student Newsletter!

In this month's issue, we reflect on **BGS's 40th anniversary celebration** and look ahead to the future of BGS. Next, we highlight ***Hablemos Ciencia***, a student group dedicated to creating a platform for Spanish speakers across campus to engage in scientific discourse in Spanish. We also highlight three **Hispanic and Latinx faculty—Dr. Juan R. Alvarez Domínguez, Dr. Montserrat Anguera, and Dr. Ileana Pérez-Rodríguez**—for their work in pushing the boundaries of scientific research in celebration of Hispanic Heritage Month. We also spotlight **recently-defended CAMB-MVP student Dr. James Gesualdi's fascinating research on neuroinflammatory crosstalk** between microglia and astrocytes in an iPSC-derived models of HIV infection in the central nervous system. We then provide an **update on the graduate student worker union GETUP-UAW** after over a year of bargaining with Penn admin. Finally, you can find a link to play our newest puzzle – **CAMB Subgroup Scramble**!

For additional articles, past publications, and to learn more about the CAMB Student Newsletter team, visit our blog at https://cambnewsletter.wordpress.com/ or follow us on Instagram and Bluesky **@ cambnewsletter.**

The CAMB Student Newsletter is always looking for new writers and editors to join our team! We are also looking for help managing our social media accounts and blog. Current students interested in contributing to the CAMB Student Newsletter can fill out this form or reach out to us via email at **cambstudentnewsletter@gmail.com** to learn more! You can also check us out in person — our next meeting will be Friday, December 12th at 3pm, location 301 BRB. Join us to brainstorm ideas for the February issue while enjoying some scrumptious snacks!

Sincerely,

Kay Labella, Ariana Majer, and Eva Agostino

Editors-in-Chief

SPECIAL INTEREST

Penn BGS Celebrates 40th Anniversary

by Avani Modak
Peer Edited by Gabriela Colon Roura

On October 10th, Biomedical Graduate Studies (BGS) marked a major milestone – its 40th anniversary! The celebration brought together professors, current students, and alumni, all eager to reflect on BGS's history and look ahead to its future. The event's schedule featured insightful talks on research and career development, two lively student poster sessions, tabling from student organizations, and countless opportunities for alumni to reconnect with old mentors and fellow researchers.

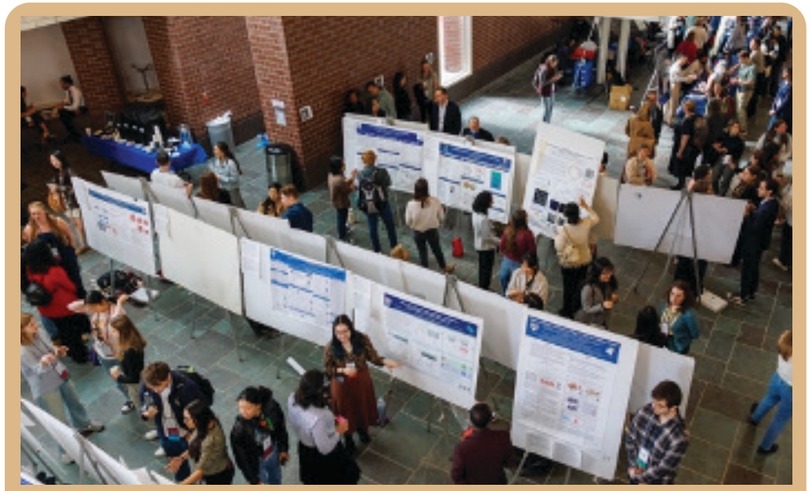
Evolving with the Times: A Focus on Change

The theme of the day was change. Since its founding, BGS has continually adapted to the evolving landscape of science and education. Over the years, there has been a noticeable shift in student interests, with more and more students pursuing translational research and non-traditional career paths. In response, the program has adjusted as well, focusing on a more "bench-to-bedside" approach that emphasizes real-world application of research.This shift is reflected in BGS's growing legacy: 45 FDA approved therapeutics, 10 Nobel Prizes, and groundbreaking therapeutics.

The application fee for CAMB PhDs was $60 in 1997, but all application fees have since been waived!

The research is not the only evolution; BGS has also embraced changes in training, launching programs like the Public Health Certificate and the Career Paths Mentoring Program. The latter has been particularly impactful, connecting students with a wide array of alumni and career opportunities beyond academia, including those in fields like consulting, science writing, and teaching at non-research-focused institutions.

These changes are reflected not only in BGS's graduate programming, but also in the student population. When BGS began, 1 in 10 applicants were admitted. That number has plummeted to 1 in 50, demonstrating how competitive the program has become. As Dean of the Medical School, Dr. Jon Epstein, joked during his introduction of the day, "many [alumni] would not have gotten in [today]." Throughout the day's events, speakers repeatedly stressed the importance of listening to students and student leaders. These voices, they emphasized, are essential in guiding the program's evolution and ensuring it meets the needs of the next generation of scientists.



Student poster sessions introduced alumni to current research and student life at Penn.

Alumni Return to Their Roots

For alumni, the anniversary event was a special opportunity to reconnect with the BGS community. Many returned to their old labs, reminisced with friends, and reconnected with former professors. One Cell and Developmental Biology alumnus shared, "It's different from other visits to my old lab – it was great seeing other alumni too."

Students, alumni, and faculty packed into the BRB auditorium bright and early on October 10th to hear the first round of talks.

A Shadow of Uncertainty: Addressing Funding Challenges

While the day was filled with fun memories and optimism, the ongoing challenges surrounding federal research funding loomed like dark clouds over the celebration. From opening remarks from interim BGS director Dr. Dan Kessler, who noted that "there has been a dramatic change in the landscape when it comes to government funding," to Nobel laureate Dr. Drew Weissman's response to a question about the future of vaccine funding, to Dr. Meredith Shaffer's absence from the career mentoring session due to the federal government shutdown, it was clear that the current administration and federal funding climate is a pressing concern for BGS students, faculty, and alumni.

However, despite the uncertainties, BGS remains resilient. As several speakers pointed out, the program has always weathered challenges, and will continue doing so by diversifying its funding sources. Over these 40 years, BGS has secured over a billion dollars in sponsored research, with private funding becoming an increasingly important part of that equation.

BGS has awarded over 40,000 PhDs since 1985!

In light of the challenges, the anniversary event also included a fundraising effort aimed at supporting current and future BGS graduate students. With the cost of supporting one student in a lab estimated at $10,000, the goal of the event was to raise $40,000 to help ensure that the next generation of scientists has the resources they need to succeed.

Looking Ahead: The Future of BGS

As BGS celebrates its 40th anniversary, it's clear that the program is poised to keep going strong. By embracing change, staying adaptable, and continuing to foster strong connections with its alumni, current students, and partners, BGS will remain a leader in biomedical research and training for decades to come. The event not only celebrated the program's achievements but also reinforced its commitment to evolving in a rapidly changing world.

Talking Science with Hablemos Ciencia
(English Version)

by Maya English
Peer Edited by Kay Labella and Ariana Majer

In the past century, English has become the de facto universal language of science, with the highest-impact biological journals published in English. However, Spanish is a more common first language than English globally, and there are over 40 million native Spanish speakers in the US. This disconnect leaves many scientists for whom English is not a first language at a disadvantage. At Penn, Hablemos Ciencia (literally, "Let's talk science") is a student group working to create a platform for Spanish speakers across campus to engage in scientific discourse in their own language. The newsletter team sat down with current co-director and IGG alumnus Franklin Staback Rodríguez, PhD to learn more about this innovative program.

Hablemos was founded on the simple idea that:

> "Spanish shouldn't be an obstacle to producing and communicating good science".
>
> -Dr. Staback Rodríguez

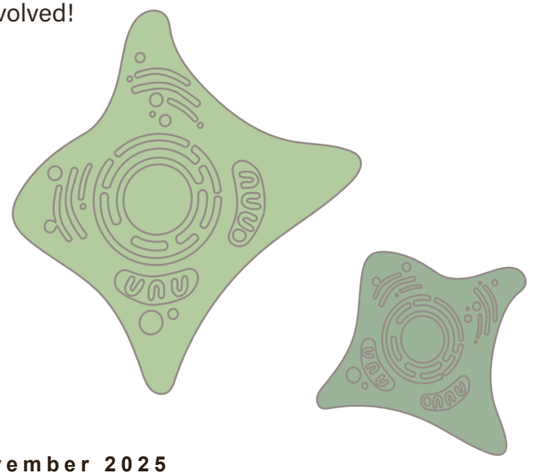
Since its official founding in the fall of 2022, Staback says *Hablemos* has evolved from a niche seminar series into a community gathering event and interdisciplinary forum for students, postdocs, techs, and faculty. Monthly seminars give trainees the opportunity to present their work in Spanish, fielding questions in Spanish, English, or Spanglish. The lively energy in the room belies the rigorous science and thoughtful discourse.

The positive impacts of *Hablemos* are numerous: attendees at any given seminar come from a broad range of disciplines, meaning that speakers are presenting their work to a highly interdisciplinary audience. Translating science can also be an unexpected challenge, even for native speakers. These presentations encourage speakers and attendees to learn the Spanish words for phenomena they may have been introduced to in English; for example, "quimiotaxis", which translates to *chemotaxis*.

According to Staback, "The best part has been to see second and third [generation] Spanish speakers take up 'the challenge' to practice their Spanish, but to also celebrate their cultural pride. Some have even invited their parents via Zoom, which has been adorable." Language can be a powerful tool in building a sense of belonging, and Staback hopes that these seminars can eventually become a way for students studying in Puerto Rico to see that they belong at Penn.

> "[It] didn't matter to me that our initial attendance was around 5 people per seminar (including the co-directors), because I saw its potential to grow..." -Dr. Staback Rodríguez

Since its inception, *Hablemos Ciencia*'s reach has grown within Penn and beyond. In May of 2025, the first multi-institutional Hablemos Ciencia symposium was held at Michigan State University, featuring Staback as keynote speaker. In his final year as co-director, Staback hopes to "enjoy these seminars and give so many of the brilliant Spanish speakers on our campus a chance to present and become involved." With the future of Hablemos as bright as it's looking, there's no better time to get involved!



"Talking Science" con Hablemos Ciencia
(Spanish Version)

por Maya English
Corregido por Kiara L. Rodríguez-Acevedo

En los últimos cien años, el inglés se ha convertido en la idioma coloquial en la ciencia, con las revistas biológicas más grandes publicadas en inglés. Sin embargo, el Español como lengua materna es más utilizado globalmente que el inglés, y en los EEUU hay más de 40 millónes de Hispanohablantes. Este vacío deja en desventaja a muchos científicos para quienes el Inglés no es su primer idioma. En Penn, Hablemos Ciencia es un grupo de estudiantes trabajando para construir una plataforma para que Hispanohablantes alrededor del campus puedan involucrarse en discursos científicos en su propio idioma. El equipo del boletín CAMB entrevistaron al co-director actual y ex alumno de IGG, Franklin Staback Rodríguez, PhD para aprender más sobre este programa inovador.

Hablemos Ciencia fue fundado con la idea sencilla de que:

> "el Español no debe ser obstáculo para hacer ni comunicar buena ciencia."
>
> -Dr. Staback Rodríguez

Desde su fundación oficial en el otoño del 2022, Staback dice que Hablemos ha evolucionado de un pequeño seminario a una reunión comunitaria y foro interdisciplinario para estudiantes, posdoctorados, técnicos, y profesores. Seminarios mensuales dan a los aprendices la oportunidad para presentar sus investigaciones en Español, respondiendo a preguntas en Español, en Inglés, o en Spanglish. La gran energía en el auditorio contradice la ciencia rigurosa y el discurso razonado.

Los impactos positivos de Hablemos son varios; los asistentes de cada seminario vienen de un amplio alcance de estudios, por lo tanto los presentadores se dirigen a una audiencia muy interdisciplinaria. Traducir la ciencia también puede ser un desafío inesperado, incluso por los hablantes nativos. Esos seminarios incentivan a los presentadores y asistentes a aprender las palabras en Español para fenómenos que quizás han aprendido en inglés; por ejemplo, *quimiotaxis*, que traduce a "chemotaxis".

Según Staback, "lo mejor ha sido ver a los hispanohablantes de segunda o tercera generación aceptando el 'reto' de practicar su Español, pero también celebrando su orgullo cultural. Algunos han invitado a sus padres por Zoom, que ha sido adorable." El idioma puede ser una herramienta poderosa en construir un sentido de pertenecer, y Staback espera que estos seminarios se convierten en una manera para que los estudiantes provenientes de Puerto Rico y de otras partes del mundo hispanohablante puedan sentirse que pertenecen a la comunidad de Penn.

> "No me importó que nuestra asistencia inicial era casi cinco personas por seminario (incluso los co-directores), porque ví su potencial de crecer..." -Dr. Staback Rodríguez

Desde su principio, el alcance de Hablemos Ciencia ha crecido dentro de Penn y más allá. La primera charla de profesores por una locutora invitada ocurrió en la primavera de 2025, cuando la Dra. Ana Fizbein de la Universidad de Boston presentó sobre el splicing. En mayo de 2025, el primer simposio multi-institucional de Hablemos Ciencia ocurrió en el Universidad de Michigan State, con Staback haciendo el discurso de apertura. En su año final como co-director, Staback espera "disfrutar de los seminarios y dar oportunidad para presentar y involucrarse a los muchos hispanohablantes brillantes en el campus de Penn." Con el futuro de Hablemos Ciencia tan genial como aparece, ¡no hay mejor tiempo de involucrarse!

How can I get involved with Hablemos Ciencia?

- Attend the seminar series
  - Seminars are announced are in BGS and SACNAS newsletters
  - Interested students, postdocs, and faculty can email the co-directors to get added to the Hablemos email chain
- Participate in the winter Symposium and Parranda in collaboration with SACNAS
  - Hear talks in Spanish and join in the Puerto Rican tradition of Christmas Parranda
- See a faculty keynote
  - In addition to Penn faculty, a growing effort to invite outside faculty means you will be able to hear from more scientists than ever before!
- Present a seminar
  - Talks are 20 minutes in Spanish
  - This is a great opportunity to get feedback from peers!
- Volunteer for the organizing committee
  - Time commitments vary, but amount to a few hours per month on average

If you want to get involved, contact co-directors Franklin Staback Rodríguez (fds@pennmedicine.upenn.edu) and Adriana Santiago (adriana.santiago-ruiz@pennmedicine.upenn.edu)

¿Cómo puedo involucrarme con Hablemos Ciencia?

- Asistir al seminario
  - Los seminarios son anunciados en los boletines BGS y SACNAS
  - Estudiantes, postoctorados, y profesores pueden enviar un correo a los co-directores para ser añadidos a la lista de envío
- Participar en el simposio de invierno y parranda con SACNAS
  - Oír charlas en Español y unirse a la tradición puertorriqueño de Parranda navideña
- Mira una charla profesoral
  - ¡Además de profesores de Penn, un esfuerzo creciendo para invitar a profesores externos significa que puedes aprender de más científicos que antes!
- Contribuir una charla
  - Los seminarios en Español duran 20 minutos
  - ¡Es una manera buena para recibir comentario de sus colegas!
- Ofrece su tiempo en el comité organizador
  - Compromisos de tiempo varian, pero en promedio son algunos horas por mes

Si quieres ser involucrado, contacta a codirectores Franklin Staback Rodríguez (fds@pennmedicine.upenn.edu) y Adriana Santiago (adriana.santiago-ruiz@pennmedicine.upenn.edu)

Dr. Staback Rodríguez (left) and other keynote speakers at *Hablemos Ciencia* in Michigan State University.

Dr. Staback Rodríguez (izquierda) y otros conferenciantes de *Hablemos Ciencia* en la Universidad de Michigan State.

SPECIAL INTEREST

A Year of Bargaining: Updates on GETUP-UAW Unionization

by Eva Agostino
Peer Edited by Maya English

Note: Data in this article was last updated on November 13, 2025.

The GETUP-UAW Bargaining Committee has been locked in contract negotiations with Penn admin for the past year, hard at work advocating for graduate student worker (GSW) rights. A lot has happened since we last covered the union in November 2024, and we at the CAMB Student Newsletter felt an update was due. Here we cover where bargaining currently stands, the progress (or lack thereof) after a whole year at the bargaining table, and what comes next.

For those needing a quick refresher, Penn GSWs overwhelmingly voted to form a union (GETUP-UAW) in May 2024. After the ratification of the Initial Bargaining Demands, GSWs elected the GETUP-UAW Bargaining Committee that entered formal union contract negotiations with Penn administrators in October 2024. For more detailed information and FAQs about unionization, be sure to read our previous article "Everything you need to know about the unionization of graduate students at Penn".

Now let's get into it.

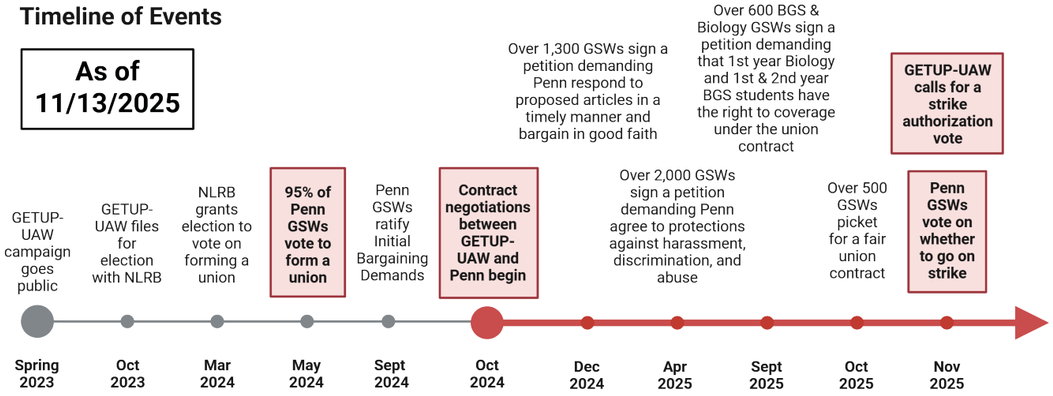
What's happened over the past year?

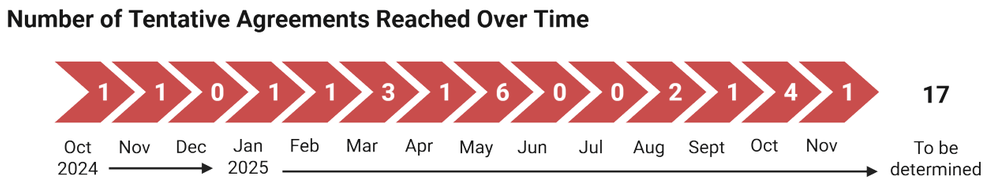
Since October 2024, negotiations on the union contract have continued with moderate progress. As of November 13, 2025, **GETUP-UAW and Penn have reached 21 tentative agreements with 17 proposed articles yet to reach consensus**. (1) Most of the tentative agreements took months to reach, and Penn has failed to respond at all to 7 of the 17 proposed articles still on the table.

Frustrations over Penn's slow pace and lack of acknowledgement on many proposed articles are palpable amongst the GSW body. After very little progress in the first few months, over 1,300 GSWs signed a petition in December 2024 demanding that Penn respond to articles at the bargaining table in a timely manner and bargain in good faith. Outside of the negotiation room, Penn GSWs have made specific concerns publicly known. In light of the anti-immigrant and anti-LGTBQ+ policies of the current federal administration, over 2,000 GSWs signed a petition demanding enshrined protection from harassment, discrimination, and abuse for all GSWs regardless of identity. On October 8, 2025, hundreds of GSWs picketed for a fair union contract, a sharp reminder to Penn administrators of the collective power of the expectant GSW body. (2)

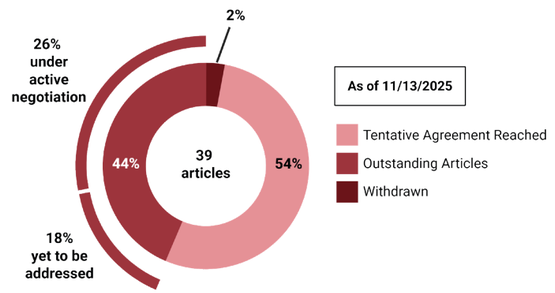
Another ongoing debate concerns the inclusion of early-stage biology GSWs in the bargaining unit. Only GSWs in the bargaining unit are eligible to vote in elections, become members of the union, and be protected under the union contract. When GETUP-UAW filed for an election in October 2023, Penn petitioned the National Labor Relations Board (NLRB) to exclude Educational Fellowship Recipients (EFRs), including 1st year Biology and 1st and 2nd year BGS students, from the bargaining unit and therefore from the election. Penn admin argued that graduate students in lab rotations do not produce valuable work, and thus do not qualify as employees with the right to form or join a union. Ultimately, the NLRB decided to allow EFRs to vote in the election with their ballots subject to challenge, leaving the question of their inclusion in the bargaining unit for after the election. **As of November 2025, the inclusion of EFRs, including 1st and 2nd year BGS/CAMB students, in the bargaining unit is still**

Over 500 Penn graduate student workers and allies picket along Walnut Street for a fair union contract on October 8, 2025.

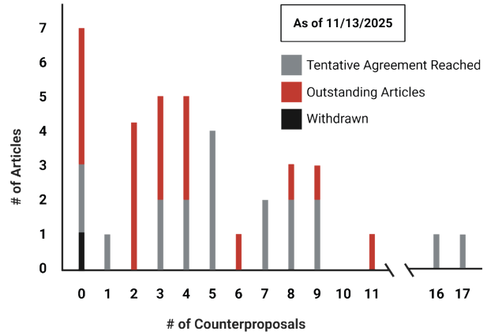




Timelines of unionization *(1,3). (A) A timeline of major events of the unionization movement. This article covers collective bargaining between GETUP-UAW and Penn admin over the past year, indicated in red on the timeline. GSW = graduate student worker. (B) The number of tentative agreements reached by month as of November 13, 2025. Consensus has yet to be reached on 17 outstanding articles.*



Bargaining by percentage *(3,4). Percentage of articles agreed upon (54%, tentative agreement reached), still under negotiation (44%, outstanding articles), and withdrawn (2%). Some outstanding articles are under active negotiation with counterproposals exchanged (26%), while others have yet to be addressed without a single counterproposal having been offered (18%).*

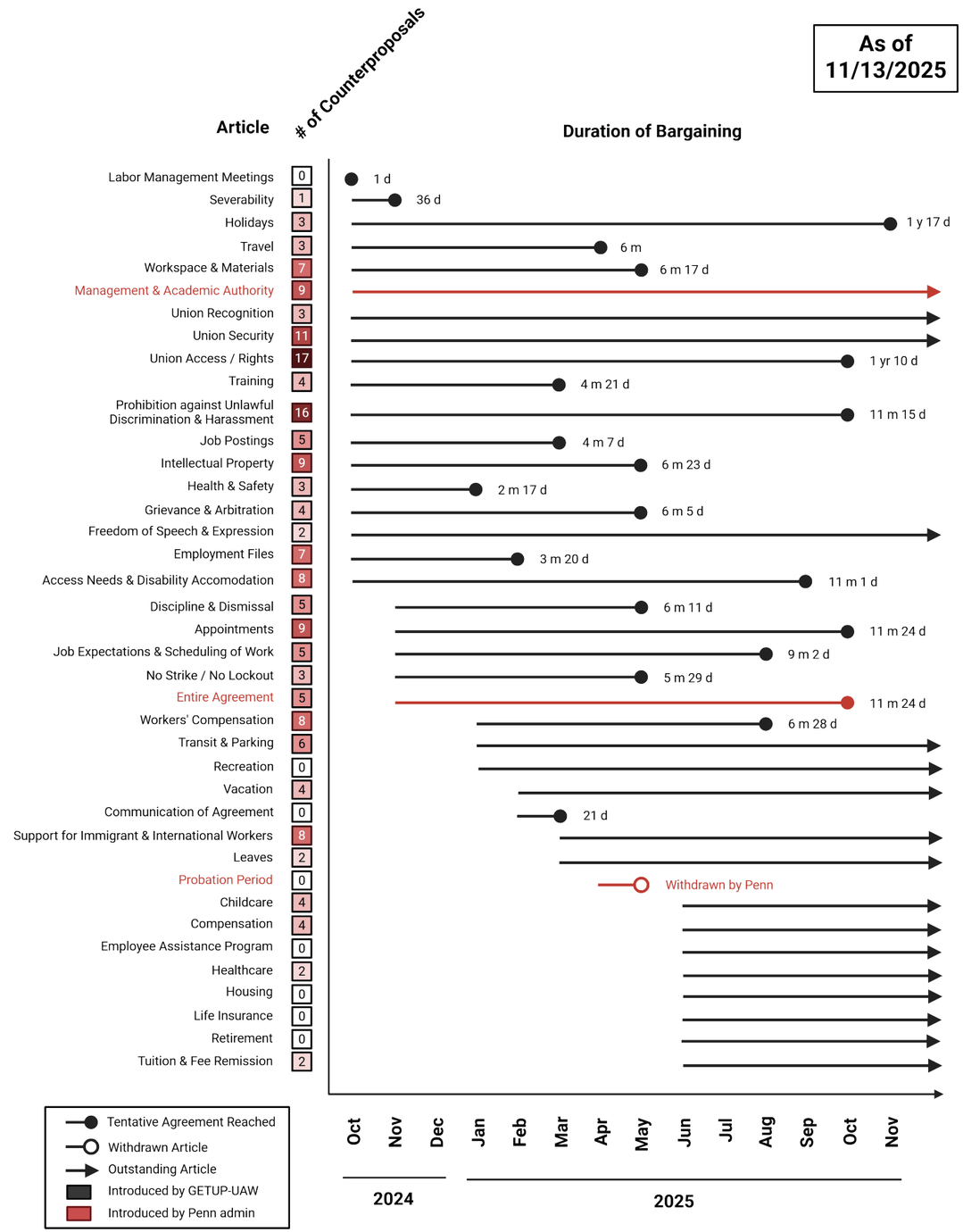


Frequency of article counterproposals *(3,4). Histogram representing the number of articles with a given number of counterproposals exchanged between the bargaining parties (gray = tentative agreement reached, red = outstanding articles, black = withdrawn articles).*

under active negotiation. In September 2025, over 600 BGS and Biology GSWs signed a petition stating that GSWs in the first 2 years of their PhD, including rotation students, deserve the right to be covered by the union contract. GETUP-UAW formally demanded that these students be included in the bargaining unit and under the protection of the union contract at the bargaining table, presenting over 200 peer-reviewed journal articles coauthored by BGS and Biology rotation students as proof of their meaningful and active research contributions.

Here we've included a timeline of events and a comprehensive table of proposed articles and negotiation stats to date (as of November 13, 2025).

Tentative agreements reached



An overview of the bargaining progress *(3,4). The 39 articles are ordered based on the date of introduction (black = introduced by GETUP-UAW, red = introduced by Penn admin). A heat map of the number of counterproposals exchanged back and forth between the parties during bargaining (colored by abundance from white to dark red). A timeline depicting when each proposal was introduced and the duration of bargaining for each proposal (closed circle = tentative agreement reached, open circle = withdrawn proposal, arrow = outstanding negotiation still under negotiation, black = introduced by GETUP-UAW, red = introduced by Penn admin).*

As of November 13 2025, the GETUP-UAW bargaining committee and Penn admin have agreed to and passed 21 tentative agreements for the union contract. (1) Below is a description of each tentative agreement as well as links to the official legal documents.

Outstanding articles

Tentative Agreement (official document linked)	Summary
Access Needs and Disability Accommodation	Protections and the accommodation process for disabled individuals.
Appointments (package with Entire Agreement & Union Rights)	How appointment offers will be made and communicated under the tentative contract.
Communication of Agreement	How the final contract will be shared and disseminated.
Discipline and Dismissal	Process for disciplinary actions and dismissal for job-related offenses.
Employment Files	Who can access employment files and how.
Entire Agreement (package with Appointments & Union Rights)	Both parties agree with the full contract and its proposals as written.
Grievance and Arbitration (package with No Strike / No Lockout)	What happens if this contract is violated? The process for filing, negotiating, and if necessary arbitrating a grievance if an article of the contract is breached.
Health and Safety	How to ensure the health and safety of GSWs in the workplace.
Holidays	Official list of university holidays and GSW rights to religious/ cultural holidays not listed.
Intellectual Property	Who has intellectual property over research and protections from retaliation for those who report research misconduct.
Job Expectations and Scheduling of Work	Defining reasonable job expectations for GSWs.
Job Postings	Hiring process and announcement of open positions.
Labor-Management Meetings	How the bargaining sessions will work.
No Strike/No Lockout (package with Grievance & Arbitration)	Prohibits any GSW from striking or interfering with Penn's work and operations once the contract is in effect; Prohibits Penn from locking GSWs out of workspaces.
Prohibition against Unlawful Discrimination and Harassment	Protection from discrimination and harassment and retaliation for reporting any discrimination or harassment. Accommodations for certain identity groups.
Severability	Process for if part of the contract violates the law and therefore is no longer enforceable.
Training	Access to and compensation for required training.
Travel	Compensation/reimbursement for required travel including for academic conferences.
Union Rights (package with Appointments & Entire Agreement)	Defining the rights of GETUP-UAW to meet, post information, conduct an orientation for new members on campus and to have access to a directory of all GSWs and their contact information.
Workers' Compensation	How injuries/illnesses in the workplace should be handled and compensated for.
Workspace and Materials	Access to materials and workspaces required for research and requests for remote/hybrid work.

As of November 13, 2025, the GETUP-UAW bargaining committee and Penn admin have yet to agree upon 17 proposed articles. (1) Here we have provided a brief description of the aims of each outstanding article. Want to see where these articles currently stand during negotiations? The most up-to-date information on their status can be found here.

What's next?

Outstanding Article	General Description
Childcare	Grants and access to childcare programs for GSW parents.
Compensation	All matters to do with payment including pay rates, pay periods, late payments, and support during relocation, transition, and post-defense.
Employee Assistance Program	Equal access to the Employee Assistance Program as eligible Penn faculty and staff.
Freedom of Speech and Expression	Guarantees GSW rights to freedom of speech and expression generally and as pertains to union activities specifically.
Healthcare	Health, dental, vision, and dependent insurance coverage, benefits, access to various forms of care and durable medical equipment fund.
Housing	Acknowledgement of the importance of available, adequate, safe, and affordable housing.
Leaves	Definition of leaves including sick time, parental support/relief, immigration, medical, bereavement, jury duty, international GSWs (for visas), and leaves of absence. Process for reinstatement following leave.
Life Insurance	Access to Penn's Employee Life Insurance Program.
Management & Academic Authority	Defines the areas that Penn retains rights to make executive decisions.
Recreation	Guarantees GSW access to Penn recreational facilities and services for free.
Retirement	Access to Penn's retirement savings plans and the option to participate in Penn's Matching Plan.
Support for Immigrant and International Workers	Supports and protections for immigrant and international GSWs, including financial support and handling of immigration documentation.
Transit and Parking	Access to shuttles and Penn buses, bike storage and programs, and parking. Coverage of SETPA passes.
Tuition and Fee Remission	Penn will cover any tuition or mandatory university fees for any term a GSW is working within the bargaining unit.
Recognition	Official recognition as GETUP-UAW as the union representing GSWs at Penn and which students are included in the bargaining unit under contract protection.
Union Security	The process for handling the payment of union dues for union members and agency fees for non-union members.
Vacation	Annual paid vacation leave and accruement.

Negotiations will continue until GETUP-UAW and Penn administrators reach tentative agreements on all proposed articles.

How long until that happens?

No one knows, but with 17 outstanding agreements, including several heavy-hitting economic articles that have yet to be addressed, there's still a long way to go.

Will GSWs have to go on strike?

We have yet to see whether a tentative contract can be reached without a strike. While some other GSW unions have not needed to strike for a fair contract, the GETUP-UAW Bargaining Committee could call for a strike if they conclude that Penn is acting in bad faith or has committed an unfair labor practice. Citing needless delays and insulting counter offers, GETUP-UAW called for a strike authorization vote on November 3, 2025 (4). The vote in which GSWs within the bargaining unit decided whether

to strike took place on November 18-20th. **A strike cannot be authorized without a supermajority vote of GSWs in favor of the strike.** The results of this election will likely be released after this article is published. For more information on the striking process, please refer to our previous blog post on the subject.

What happens if GSWs vote to authorize the strike?

If GSWs vote in favor of the strike authorization, GSWs will have advance notice of the strike start date to plan accordingly. **A strike authorization does not guarantee that a strike will be necessary.** After the election, Penn admin will be given a defined period of time to reach an agreement with GETUP-UAW to avoid a strike. If Penn admin does not comply within that period, GSWs will go on strike until an agreement or satisfactory progress has been made during bargaining.

What activities fall under a strike?	
Strikable	**Academic/not strikable**
- Research - TA responsibilities - Computational or data analysis Manuscript/grant writing	- Classes - Preliminary exam preparation - Dissertation writing

Example Scenario	Suggested Approach
You're in the middle of a 12-week immunization schedule with animals.	Complete the bare minimum work required to complete your immunization without losing 12-weeks of progress. After the sac, freeze down samples and do not proceed with downstream analysis until the strike concludes.
You just received an RNA-seq dataset you've been waiting for.	Save the files, but do not begin data analysis until the strike concludes.
You're breeding animals for your colony and pups have to be weaned.	Ask a coworker not on strike to wean your pups. If not possible, wean the pups yourself but do not begin any experiments until the strike concludes.
A shipment of reagents that have been backordered finally arrive.	Ask a coworker not on strike to store your reagents at the appropriate temperature. Do not begin any new experiments until the strike concludes.
You're culturing valuable primary cells from a patient that cannot be replaced.	Continue the bare minimum culturing required to keep your cell cultures viable. If passage number is a concern, conduct the necessary experiments at the required passage number, but do not process or analyze any data generated from that experiment until after the strike concludes.
You've been working on a F31 application for the past several months and the deadline is during the strike.	Use your best judgement. Try to plan around the strike, pushing to finish writing and submit materials before the strike begins. If you can't submit prior to the strike, consider stopping work on the grant and waiting to submit your application until the next deadline once the strike concludes.
You have a meeting with a collaborating professor that's been scheduled for months.	Try to reschedule if possible. If rescheduling would require pushing back by an unreasonable amount of time, attend the meeting, but do not start any next steps discussed in the meeting.

What does going on strike mean for my research, classes, etc?

If GSWs go on strike, GSWs would be expected to withhold labor that falls under their research and/or teaching position. This includes conducting new experiments, data analysis, writing manuscripts or grant applications, holding office hours or grading exams as a teaching assistant, etc. However, reasonable exceptions can be made (see below for some examples). **Rule of thumb: stop as much work as you possibly can without sacrificing weeks/months of progress.**

The strike does not pertain to work under GSW academic roles. GSWs will still be expected to attend classes, complete homework assignments, and take exams during the strike. This includes GSWs writing their dissertation or preparing for preliminary examinations as those fall under strict program timelines. Rotations fall into a bit of a gray area since rotation students receive grades but also can produce important data during a rotation.

For any questions concerning the strike or strike parameters, please contact CAMB Bargaining Committee representative Emily Aunis (see contact info below).

What happens once a contract agreement has been reached?

Once a full tentative contract has been reached, another election will be held for Penn GSWs to ratify that contract. If ratified, GETUP-UAW will become an official union. Protections, benefits, and improvements conferred by the contract will go into immediate effect. GSWs will be asked to sign an official contract for their union card and begin to pay union dues (or agency fees for non-members). For more information on union dues/agency fees and their uses, please refer to our previous article. If rejected, GETUP-UAW and Penn admin will go back to the table for renegotiations until they have reached an agreement supported by the GSW body.

I still have questions. Who do I talk to?

If you have questions or want to get involved with GETUP-UAW, you can reach out to CAMB bargaining committee representative Emily Aunis (MVP, Emily.Aunins@Pennmedicine.upenn.edu) or reach out to GETUP-UAW directly here.

References

1. https://getup-uaw.org/bargaining-portal/
2. https://www.thedp.com/article/2025/10/penn-get-up-union-picket-strike-pledge
3. Figures made in Biorender
4. https://www.thedp.com/article/2025/11/penn-get-up-union-press-conference-strike-authorization-vote
5. https://getup-uaw.org/about/

Term	Definition
Agency fee	A monthly fee paid to the union by workers who are NOT union members but are within the bargaining unit and therefore benefit from the universally improved working conditions and benefits resulting from the union's efforts.
Article / Proposal	A legal, written document outlining policies and conditions as part of a larger contract.
Bargaining committee	The group of representatives elected to negotiate at collective bargaining on behalf of all members of the union.
Bargaining unit	All job positions/workers that are protected under the union contract.
Collective bargaining	The process by which workers negotiate contracts with their employer through their union to define terms of employment, wages, policies, protections, etc. Both parties are legally obligated to bargain in good faith.
Educational Fellowship Recipient (EFR)	Official job title of some Penn graduate student workers, often those in the early stages of their graduate work.
Graduate Employees Together - University of Pennsylvania / International Union, United Automobile, Aerospace and Agricultural Implement Workers of America (GETUP-UAW)	A group of graduate teaching and research employees across the University of Pennsylvania who have unionized to "improve our working conditions at Penn and to strengthen our collective voice as teaching and research assistants locally and nationally." (5)
Graduate student workers (GSW)	Graduate students who are employed by their university to perform duties related to the institution's academic and research activities, such as teaching, research, and administrative tasks.
National Labor Relations Board (NLRB)	An independent U.S. federal agency that protects the rights of most private-sector employees to organize, bargain collectively, and engage in other protected activities including legal strikes.
Petition	A formal written request, typically signed by many people, appealing to authority with respect to a particular cause.
Strike	A group of workers collectively withholding labor from their employer, typically as a means to pressure the employer to address specific grievances.
Strike parameters	An outline defining which activities are to be withheld or permitted during a strike. For GSWs doing research, parameters are important to understand how to care for animal colonies, prolonged experiments, grant applications, etc. in the case of a strike.
Tentative agreement	An article or proposal that has been agreed upon by both parties during collective bargaining and therefore is approved for inclusion in the final contract. Tentative agreements do not become legal agreements until union members have voted to ratify the entire contract, consisting of all articles.
Union contract	A legally binding written agreement between a union of workers and their employer that outlines the terms and conditions of employment.
Union dues	A monthly fee paid to the union by members of that union to maintain the ability to negotiate and arbitrate against their employer and better support union members.

Dr. James Gesualdi

by Kay Labella
Peer Edited by Laura Hutchins

For people living with HIV (PLWH), advancements in anti-retroviral therapy (ART) have led to significant improvements both in disease outcome and overall quality of life. Most PLWH, when on sustained ART, will achieve successful viral suppression, avoid progression to acquired immunodeficiency syndrome (AIDS), and no risk of HIV transmission.[1,2] For all the incredible progress of the last several decades, however, PLWH remain in danger of developing other chronic and comorbid conditions earlier than those without HIV. [2,3] Chief among these conditions are those resulting from unresolved neuroinflammation; approximately 50% of PLWH on ART are diagnosed with HIV-associated neurocognitive disorder (HAND) or some level of neurocognitive impairment (NCI).[4,5]

While HAND and NCI both reduce the quality of life for PLWH, the mechanism driving the disorders remains poorly understood. Myeloid cells within the central nervous system (CNS) are known to harbor HIV, suggesting that these microglia and macrophages serve as a viral reservoir for the disease. [6] However, while a low level of viral transcription persists even in the presence of ART, the resulting neuroinflammation and neurotoxicity within the CNS is greater than can be explained by viral infection and HIV gene expression alone.[7,8,9]

Terms

Cathepsin B: A lysosomal protease used as a marker to gauge the release of lysosomal content into the extracellular space

CSF viral escape: The presence of detectable HIV RNA in the CSF despite suppressive ART with either undetectable or significantly reduced viral RNA in peripheral circulation. Observed in 5-15% of PLWH

HIV: Human immunodeficiency virus

PLWH: People living with HIV

ART: Anti-retroviral therapy

AIDS: Acquired immunodeficiency syndrome

HAND: HIV-associated neurocognitive disorder. "HAND is a spectrum of cognitive, behavioral, and motor deficits of varying severity that are often observed in PLWH. Importantly, symptoms of NCI or HAND tend to persist despite suppressive ART." (from the paper)

NCI: Neurocognitive impairment

CNS: Central nervous system

Astrogliosis: a description of a collection of cellular processes seen in neuroinflammatory and other CNS diseases, during which astrocytes rapidly proliferate with a simultaneous increase in metabolic activity.

iPSC: Induced pluripotent stem cell

iMg: Microglia-like cells derived from iPSCs

iAst: Astrocyte-like cells derived from iPSCs

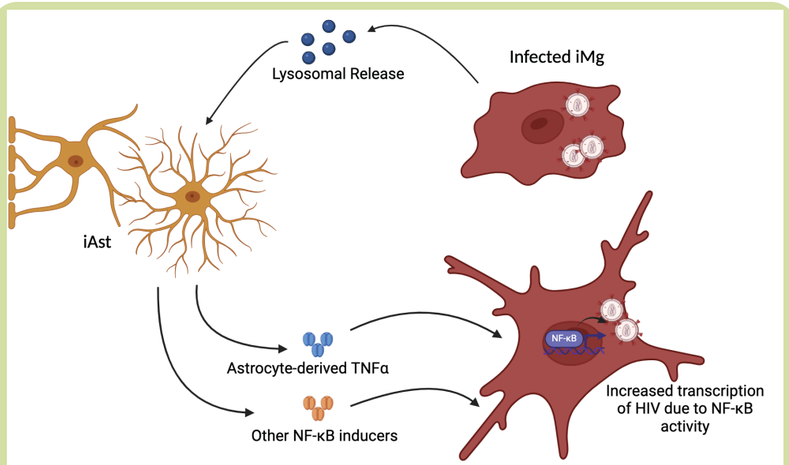
MDMs: Monocyte-derived macrophages

Supporting this, transcriptomic studies examining microglia isolated from PLWH on ART showed only 0.5% of microglia harbored viral RNA transcripts [10]. These data suggest that the neuroinflammation and resulting tissue damage may be the result of a more indirect mechanism, perhaps influenced by bystander cells within the CNS such as astrocytes.

Though there is limited evidence of active HIV replication within astrocytes, these cells display a reactive/gliotic phenotype in NCI similar to that seen in other neuroinflammatory and neurodegenerative conditions. This commonality suggests that astrocytes in particular may play a significant roleAin promoting CNS injury in the context of HAND and NCI.[11,12,13] In his paper "Neuroinflammatory crosstalk between microglia and astrocytes increases viral replication in an iPSC-derived model of CNS HIV infection," Dr. James Gesualdi (CAMB-MVP) investigated the means by which these cell-cell interactions may contribute to HAND and NCI in the absence of direct viral-induced damage.

Technique: AlphaLISA Assay

"PerkinElmer's bead-based AlphaLISAimmunoassays are designed for the detection of analytes in biological samples. These chemiluminescent, no-wash assays are ideally suited for miniaturization and automation. They exhibit remarkable sensitivity, wide dynamic range and robust performance that compares advantageously with conventional enzyme-linked immunosorbent assay (ELISA)." Direct quote from: https://www.nature.com/articles/nmeth.f.230



Graphical Abstract: Proposed model of crosstalk between HIV-infected iMg and iAst cells under coculture conditions. This model suggests that HIV infection results in increased release of lysosomes from iMg into the intercellular space. The contents of these lysosomes subsequently interact with iAst, causing them to produce TNF-α and other factors capable of stimulating NF-κB in iMg, as well as other inflammatory cytokines. This then leads to increased transcription of HIV and related genes and a robust pro-inflammatory response.

As microglia have proved difficult to culture and maintain without losing key characteristics, James utilized an alternative model.[14,15] Microglia-like cells (iMg) and astrocytes (iAst) were derived from induced-pluripotent stem cells in specialized cytokine cocktails. iMg cultured via this method expressed both markers of microglial lineage and classic HIV-associated cell surface receptors. James then showed that HIV could both enter and replicate in these cells, though he found that the replication rate, measured by the amount of HIV capsid protein p24 in culture media, was reduced compared to monocyte-derived macrophages (MDMs). iMg cells also did not secrete pro-inflammatory cytokines following HIV infection, while their MDM counterparts did. From this, James concluded that iMg cells successfully recapitulate human microglial phenotypes, but display a reduction in both virion production and immune response compared to MDMs.

Due to the weak immune response mounted by iMg alone in response to HIV viral challenge, James next differentiated iMg in the presence of iAst; as previous work has shown culturing iMg with other neuronal cells improves their functionality, he hypothesized that the inclusion of iAst cells might result in increased immune function.[16] He performed a Luminex assay on supernatants taken from HIV-infected iMg monoculture, HIV-infected iMg/iAst coculture, or iAst monoculture treated with supernatant from HIV-infected monoculture to evaluate the chemokine and cytokine profiles of each condition. Once again, HIV-infected iMg monoculture produced only a limited immune response, while HIV-infected iMg/iAst coculture produced a robust pro-inflammatory response, including significant increases in TNF-α. Surprisingly, despite this increased immune resonse to HIV challenge, coclultues of iAst and iMg also led to a significant increase in HIV replication compared to iMg monoculture, without any observable markers of HIV replication within iAst cells. Furthermore, iAst monoculture exposed to supernatant from HIV-infected iMg cells displayed increased production of TNF-α and a more pro-inflammatory, disease-associated phenotype. Altogether, this suggested that iAst, upon exposure to infected iMg, produce TNF-α, which in turn leads to an increase in viral replication in iMg and the pro-inflammatory state seen under coculture conditions.

Unsurprisingly, treatment of HIV-infected iMg monocultures with recombinant TNF-α significantly increased HIV replication. In contrast, antibody-

Luminex Assay

"A Luminex assay is a type of immunoassay that precisely measures multiple analytes in one sample. Antibodies specific to a desired analyte are coupled to a unique bead region and are incubated with sample. After washing away unbound materials, samples are incubated with a mixture of biotinylated detection antibodies and a streptavidin-phycoerythrin (PE) reporter. Using a Luminex instrument, beads are excited by one laser to determine the bead region and corresponding assigned analyte." Quote from R&D https://www.rndsystems.com/what-luminex-assay

mediated blockade of TNF-α with adalimumab in HIV-infected iMg/iAst cocultures reduced HIV replication. Notably, however, the rate of replication observed in antibody-blockaded cocultures remained higher than that seen in HIV-infected iMg monoculture. Given this, James concluded that TNF-α is one of several factors which promote increased HIV replication in iMg.

Among its many functions, TNF-α can stimulate NF-κB and its downstream effectors; previous work in the field demonstrated that NF-κB nuclear translocation can lead to an increase in viral replication via increased transcription of the integrated HIV genome.[17,18,19,20] Given this, James sought to evaluate if NF-κB played a mechanistic role in the cellular crosstalk between iMg and iAst cells. To halt nuclear translocation of NF-κB, he treated HIV-infected cocultures with iKKα inhibitor Bay-11-7082 (Bay-11). Subsequently, he observed a reduction in the rate of HIV replication, resulting in levels more comparable to untreated iMg monocultures, and a decrease in TNFα. Staining of Bay-11-treated, HIV-infected cocultures also showed a decrease in NF-κB nuclear translocation compared to their untreated counterparts; treatment with Bay-11 resulted in levels of nuclear NF-κB similar to that seen in HIV-infected iMg monocultures. As such, James determined that NF-κB signaling drives the increase in HIV replication seen in coculture conditions.

James concluded his study by further investigating the pro-inflammatory response of iAst cells treated with supernatant from HIV-infected iMg monoculture. As a number of HIV viral proteins are known to alter lysosomes within the cell, James evaluated infected monocultures of iMg cells to examine lysosomal distribution by LAMP1 staining. He found that, compared to uninfected controls, HIV-infected iMg cells displayed lysosomes more proximal to the plasma membrane. James then evaluated both iMg monocultures and iMg/iAst coculture supernatants and found that, upon infection with heat-inactivated HIV, both had increased extracellular levels of cathepsin B. From these data, James concluded that residual undegraded material from the virions may cause lysosomal flux and release of lysosomal contents, creating a pro-inflammatory microenvironment in the extracellular space and resulting in a corresponding pro-inflammatory phenotype in astrocytes.

In his paper, James expanded upon a viable method for modeling the notoriously difficult microglia *in vitro*. He further offered a mechanism for the means by which crosstalk between these critical immune cells and the equally-important astrocytes drives neuroinflammation. This proposed signaling axis also presented a potential explanation for CSF viral escape, a phenomenon seen in PLWH treated with suppressive ART whose viral RNA is otherwise undetectable. However, James noted that additional studies are required to further understand the components of this signaling axis and determine their contributions to NCI and HAND. Future avenues for exploration noted by James include evaluating samples from patients and animal models for microglial lysosomal distress. Further understanding of these cells and their crosstalk may provide a means of evaluating anti-inflammatory small molecules to target reactive astrocytes and reduce symptoms of NCI and HAND in PLWH.

References

1. Saylor D, Dickens AM, Sacktor N, et al., 2016; doi:10.1038/nrneurol.2016.27
2. Li Z, Purcell DW, et al., 2016. https://www.cdc.gov/mmwr
3. Nakanjako D, et al., 2024; doi:10.1016/j.heliyon.2024.e31910
4. Kettelhut A, et al., 2020; doi:10.1007/s11904-020-00509-y
5. Zenebe Y, et al., 2022; doi:10.3389/fpsyt.2022.814362
6. Nyamayaro P, et al., 2020; doi:10.1186/s12879-020-05090-8
7. Thompson KA, et al., 2011; doi:10.1016/j.ajpath.2011.06.039
8. Ellis RJ, et al., 2023; doi:10.1038/s41582-023-00879-y
9. Suzuki K, et al., 2022; doi:10.1073/pnas.2210584119
10. Spudich S, et al., 2019; doi:10.1172/JCI127413
11. Schlachetzki JCM, et al., 2024; doi:10.26508/lsa.202402736
12. Ellis RJ, et al., 2023; doi:10.1038/s41582-023-00879-y
13. Bozzelli PL, et al., 2019; doi:10.1002/glia.23642
14. Carey SD, et al., 2024; doi:10.1111/ejn.16427
15. Gosselin D, et al., 2017; doi:10.1126/science.aal3222
16. Gandre-Babbe S, et al., 2013; doi:10.1182/blood-2013-01-478412
17. Abud EM, et al., 2017; doi:10.1016/j.neuron.2017.03.042
18. Chen J, et al., 2023; doi:10.1016/j.virs.2023.03.001
19. Liu T, et al., 2017; doi:10.1038/sigtrans.2017.23
20. Alvarez-Carbonell D, et al., 2019; doi:10.1007/s11481-018-9798-1
21. Hattori SI, et al., 2018; doi:10.3389/fmicb.2018.02022
22. Ellis RJ, et al., 2023; doi:10.1038/s41582-023-00879-y
23. Perez-Valero I, et al., 2019; doi:10.1097/QAD.0000000000002074
24. Elendu C, et al., 20232; doi: 10.1097/MD.0000000000035652
25. Norenberg MD. 1994; doi: 10.1097/00005072-199405000-00001. PMID: 8176405.

FACULTY SPOTLIGHT

CAMB Hispanic Heritage Month:
Meet Hispanic/Latinx Faculty Advancing Research that Matters

by Kiara L. Rodríguez-Acevedo
Peer Edited by Ariana Majer and Kay Labella

Every year from September 15th to October 15th, we celebrate people of Hispanic and Latin American heritage and their important contributions to our country. Today, more than ever, our community should embrace and uplift Hispanic and Latinx scientists, highlighting their work in a time when inclusion and representation in science remain essential. When research is shaped by diverse perspectives, it can lead to greater impact on all communities.

At CAMB, Hispanic and Latinx faculty are leading research that directly intersects with health and environmental challenges disproportionately affecting Hispanic populations. In this issue, we highlight three CAMB faculty members of Hispanic and Latinx heritage whose research exemplifies this connection:

Dr. Juan R. Alvarez - Assistant Professor, Department of Cell and Developmental Biology

Dr. Alvarez was born and raised in Guatemala. When he was a teenager, he attended the Adriatic United World College (UWC) in Italy, one of 18 UWC schools on 4 continents that unites people, nations, and cultures in an educational movement for peace and a sustainable future. Dr. Alvarez had classmates from 155 countries. His experience there taught him to celebrate differences, to value intercultural understanding, and to channel these differences towards learning, compassion, and meaningful social change. Dr. Alvarez then continued his undergraduate, graduate, and postdoctoral training in the United States. His lab now focuses on diabetes research, investigating pancreatic islets and identifying molecular targets for potential therapies.

Hispanic individuals are 66% more likely to be diagnosed with diabetes compared to non-Hispanic white individuals.

Source: U.S. Department of Health and Human Services

Dr. Montserrat Anguera - Associate Professor, Department of Biomedical Sciences

Dr. Anguera was born in Quito, Ecuador and grew up in San Diego, California. Her parents are from Ecuador and Spain, and she is first-generation in the US. Her lab investigates the epigenetic mechanisms underlying female-biased autoimmune diseases. In particular, her lab studies the dynamics of X chromosome inactivation, the process by which one X chromosome is silenced in XX individuals to balance gene dosage with XY individuals. Dr. Anguera's team discovered that T cells in lupus show impaired localization of repressive epigenetic marks on their X chromosome, leading to overexpression of X-linked genes, which can drive autoimmune disease.

Autoimmune diseases like lupus, often have higher prevalence in ethnic minorities, including Hispanic populations.

Source: Lupus Foundation of America

Dr. Ileana Pérez-Rodríguez - Assistant Professor, Department of Earth and Environmental Science

Dr. Pérez-Rodríguez was born and raised in Puerto Rico, where she spent the first 22 years of her life. After earning her bachelor's degree in Biology from the University of Puerto Rico–Río Piedras, she moved to New Jersey in 2005 to pursue a Ph.D. in Microbial Ecology at Rutgers University. In 2017, she established the Penn Geomicrobiology Lab, where her team studies the physiologies and metabolisms of microorganisms from the oceanic crust and their potential use in applied bioprocesses.

Bioprospecting research efforts have included the application of microbe-mineral interactions by marine extremophiles to detoxify asbestos, a toxic substance still legal in the U.S. and posing exposure risks to many communities.

Sources: Choi et al. (2023), Emmett (2021)

We asked Dr. Alvarez, Dr. Anguera and Dr. Pérez-Rodríguez about their relationship with their Hispanic/Latino identities and the roles they have played in their science journeys. Here's what they said:

How do you connect with your Hispanic/Latino identity?

Dr. Alvarez: Most of my family is in Guatemala, so there is no "not-connecting" scenario. I go home for important holidays/life events. I do not view identity as monolithic, nonetheless. My view of identity is closest to Herman Hesse's "Steppenwolf", if anything. Identity (and gender) can be anchors, as much as prisons, so I take it all in stride – one day at a time. Pride, and a shifting, non-committing curiosity, are simultaneously integral to my identity. I capitalize on the former e.g. by co-organizing our Department of Cell and Developmental Biology-sponsored Hispanic Heritage panels (which sparked our larger, INSPIRE community initiative). The latter prompts me to always be mindful of not excluding others based on their particular background, no matter my natural kinship to those that share mine.

Dr. Anguera: This is an interesting question... My connection to my identity has changed during my life, but the constant has been connecting with immediate family, and then with my relatives in Spain and Ecuador (and Peru, as cousins have moved there). As a kid, my parents were very active in social organizations that promoted the culture and history of Ecuador, and also Spain. So my siblings and I would attend events hosted by both clubs. I studied flamenco and classical Spanish dance for 10 years in my youth. Now I connect with my identity through travel, visiting family here in US and Spain/Ecuador, and with dinner parties with colleagues.

Dr. Pérez-Rodríguez: Recently, I have been connecting with my identity through commercial DNA-based genealogical services. Results have revealed a complex mixture of ethnic backgrounds, including (to my surprise!) around 25% indigenous ancestry. Like many in the Island [of Puerto Rico], I am now recovering my deep connection with the first inhabitants of the Caribbean, which we were taught to be extinct.

In what ways has your identity shaped your journey in science?

Dr. Alvarez: When I immigrated to the U.S. for college, I became acutely aware of my *alien* status. No teacher looked like me. My only compatriots on campus – the kitchen staff – advised marrying a U.S. citizen to secure my status as my next life goal. I doubted belonging in prestigious institutions and centering life goals on my own worth. From being privileged over darker-toned, indigenous peoples in my country, I now faced a role reversal: systemic bias reinforcing generational privilege among those who didn't look or talk like me. I sought to learn more through my study of feminist theory. I devoured Linda Nochlin's essays, which helped me understand my experience as a bisexual immigrant.

For my Gender Studies minor, I dove into Juana María Rodríguez's concept of Queer Latinidad, realizing that academia is not exempt from the complex interplay between privilege, oppression, and our identities (sex/class/gender/religion/disability/sexuality/ethnicity). My knowledge of racial inequality in the U.S. deepened with the Black Lives Matter and #ShutDownSTEM movements, which laid bare how historical racism and exclusion still limit access, retention, and success of peers minoritized in academia. Having gone from privileged to alienated, I came to understand that advantage begets more advantage. And that to break the cycle, I must not just avoid but actively confront bias. I have since led DEI and outreach efforts—on campus, nationally, and internationally.

Dr. Anguera: I am very passionate about science, and want to share my excitement & enthusiasm to inspire the next generation of scientists. I enjoy outreach opportunities to grade school kids to share my experience in a STEM career, and inspire them — especially girls — to pursue STEM careers, as I did not have role models to become a scientist when I was in grade school (or high school). It's never too early to get kids excited about becoming a scientist!

Dr. Pérez-Rodríguez: My identity has shaped and will continue shaping how I move through life both in and out of science — which I think is true for all of us regardless of background. However, growing up with the deepest point of the Atlantic Ocean about 70 miles directly north from my home town (Manatí) is a nice coincidence with my research on the microbiology of the deep dark ocean. In fact, I now have marine sediment samples from the plate margin to study microbial life at the Puerto Rico Trench.

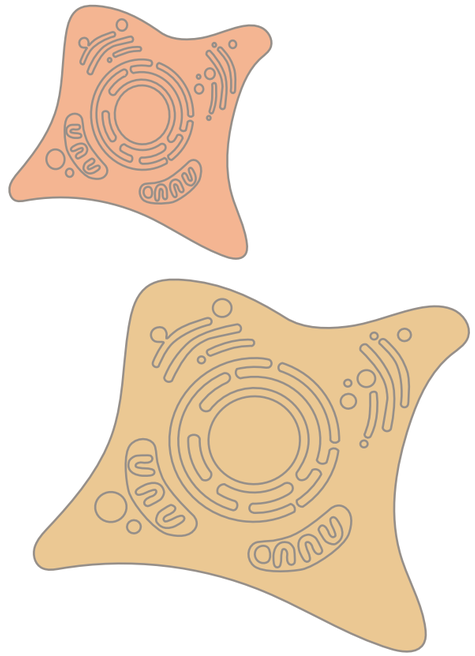
We are deeply grateful to Dr. Alvarez, Dr. Anguera and Dr. Pérez-Rodríguez for sharing their stories with the CAMB community. We also extend our appreciation to the many Hispanic and Latinx members of CAMB who contribute every day to advancing science and fostering a more inclusive academic environment at Penn.

Get in touch!

Dr. Alvarez: (Juan.Alvarez@Pennmedicine.upenn.edu)

Dr. Anguera: (anguera@vet.upenn.edu)

Dr. Pérez-Rodríguez: (ileperez@sas.upenn.edu)



CAMB Subgroup Scramble

by Maya English
Peer Edited by Avani Modak

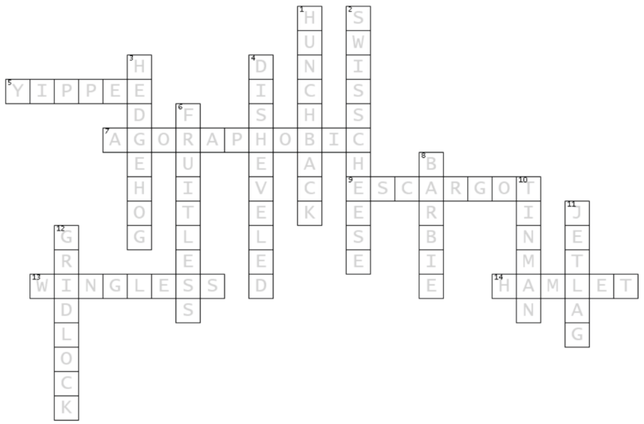
Uh oh! You were invited to a CAMB seminar, but have no idea which subgroup is hosting it. The flier is illegible, almost like it was defaced by a thesaurus-wielding maniac! Can you decode the name of the graduate group in time to grab a good seat (and a Diet Coke) at the seminar?

Solve the puzzle here!

[grade that will earn you an undergraduate [Speedstick competitor], but maybe not a [home of the Quakers!] PhD][Nickname for [Thoroughly Modern _____] Bobby [Peanuts' Charlie]'s [a person you shouldn't accept [pillowcase contents on October 31st] from] Things [a fire-type Pokémon, with -mander or -izard] acter]l [rapper [cash or ?]i or [precious Dune substance] Girl Mel][a highly volcanic moon of jupiter][ana [they can be cuckoo or grandfathers] have their hands on their [a duplicitous person is said to have two]] [Spanish "and"], [gym class, aka [singer Sheeran or actor Helms]][old MacDonald had a farm, E I E...] [Raisin, peanut butter and celery snack: ants on a]y, [[Dracula's food] type (not B or O)][state [as , so below] SD] [[[about (180 turn), or the music (accept your fate)]book [lost and]er]'s [two is this, three's a crowd]][strom: an [language heard in Rome] bread full of [supposed [what Gru tried to steal] material that explains why it's full of [movie starring Shia LaBeouf and Sigourney Weaver]] and deli meats][not lg or [type of spa that gives botox and fillers]]

Highlighted clues can be solved first.

Answers to Criss Cross Puzzle from Volume 10 Issue 3



Thank you for reading.

For any questions, comments, concerns, please feel free to contact us at cambstudentnewsletter@gmail.com

If you're interested in joining our team, fill out this form.

Instagram
@cambnewsletter

Bluesky
@cambnewsletter.bsky.social

Blog
cambnewsletter.wordpress.com

Meet our team: