NEWSLETTER

ASI Global

April 15, 2026

FEATURED STORY

GEC Partners with NCUK to Launch Guangzhou International Learning Center, Expanding Pathways to Global Top Universities

We are more than thrilled to announce that GEC Academy has entered into a strategic partnership with the Northern Consortium of UK Universities (NCUK) to establish the Guangzhou International Study Center (GISC). Hosted at Sun Yat-sen University's Guangzhou East Campus, the GISC will launch the Global Elite Cultivation Program for Prestigious Universities—designed to provide Chinese secondary school students with structured and reliable pathways to undergraduate study at leading universities worldwide.

GUANG ZHOU INTERNATIONAL STUDY CENTRE | NCUK UNIVERSITY PATHWAYS STUDY CENTRE

Founded in 1987, the NCUK is a global consortium of leading universities offering pathway qualifications recognized by institutions across major international education systems, including UK Russell Group universities, Australia's Group of Eight, and numerous QS Top 100 universities worldwide. To date, NCUK has supported over 45,000 students in progressing to universities, with a reported 98% degree completion rate.

Rooted in Sun Yat-sen University (SYSU)'s Guangzhou East Campus—one of China's most distinguished institutions and a member of Project 211, Project 985, and the Double First-Class initiative—GISC draws on SYSU's exceptional academic environment and faculty resources, while integrating GEC's decade-long expertise in the design, delivery, and management of project-based learning (PBL) programs. **GISC aims to foster a research-oriented, project-based learning environment that emphasizes critical thinking, independent inquiry, and academic communication, while providing targeted support in language development and cross-cultural adaptation to prepare students for overseas study.**

The **Global Elite Cultivation Program for Prestigious Universities**, proposed by GISC, is an integrated academic route bridging Chinese secondary education directly into first-year or second-year entry at NCUK partner universities across key study destinations, including the United Kingdom, Australia, New Zealand, Canada, and beyond.

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The program comprises two NCUK pathways:

- **International Foundation Year (IFY):** combining subject-specific study, English for Academic Purposes (EAP), and academic skills training, enabling progression to over 45 NCUK partner universities for first-year undergraduate entry.
- **International Year One (IYOne):** mirroring first-year undergraduate academic standards, enabling successful students to progress directly into the second year of an undergraduate study at NCUK partner universities.

Both programs provide two flexible academic routes: the **1+3 pathway** (IFY + three years overseas study) and the **2+2 pathway** (IFY + IYOne + two years overseas study), allowing students to select progression routes aligned with academic readiness and long-term goals. The curriculum spans a broad range of disciplines, including business, social sciences, engineering, and computer science. Students who successfully complete the program will be awarded a certificate of completion issued by SYSU and will be well prepared in terms of language proficiency, academic skills, subject foundations, and psychological and cross-cultural readiness for undergraduate study abroad.

GEC remains focused not only on university admission outcomes, but also on whether students are equipped with the academic foundations and sustainable learning capabilities required before entering a global academic environment. This partnership with NCUK represents a further step in GEC's ongoing exploration of internationally oriented talent development pathways. By introducing an established international curriculum framework and integrating it with high-quality domestic teaching resources, we aim to provide students with a clearer, more structured, and sustainable route to leading global universities. Looking ahead, we will continue to consolidate global educational resources within a broader framework, expanding access to world-class higher education opportunities for a wider range of students.

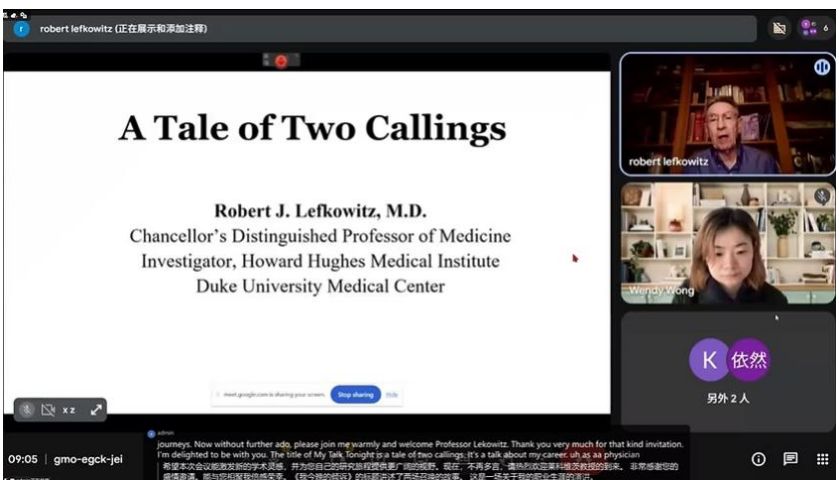
GEC also welcomes participation from our faculty members in the ongoing development of the Guangzhou International Study Center. Those interested are invited to contact publicity@gecacademy.com for further information.

LUMINAI Public Lecture Recap

A Tale of Two Callings: Nobel Laureate Robert Lefkowitz Opens 2026 LUMINAI Public Lecture Series

On March 28, 2026, ASI Global inaugurated the new season of the LUMINAI Public Lecture Series with a keynote lecture, A Tale of Two Callings, delivered by **Dr. Robert J. Lefkowitz, 2012 Nobel Laureate in Chemistry and James B. Duke Distinguished Professor at Duke University**. The lecture set the tone for the 2026 season's newly launched **Nobel Laureates Special Series**, an initiative designed to connect students with leading scientists and offer insights into their research journeys as well as their perspectives on the future of education and humanity in the age of artificial intelligence.

Approximately one thousand students from universities across the globe joined the lecture via livestream and interactive platforms, which marks the opening of the series' fourth year and reaffirms ASI Global's enduring commitment to expanding access to high-level academic dialogue and fostering the next generation of globally minded scientific talent.

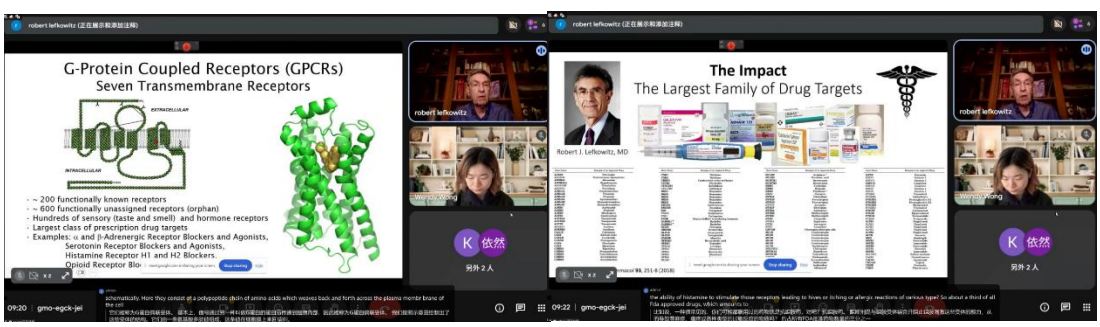


Lecture Topic: A Tale of Two Callings

Titled *A Tale of Two Callings*, Professor Lefkowitz's talk took a distinctive approach, blending scientific insight with personal reflection. Rather than focusing solely on research achievements, he traced the evolution of his career across two deeply felt "callings". He recalled how an early fascination with a family doctor inspired his first calling—**to become a physician**. Years later, an unexpected research assignment at the National Institutes of Health led him to discover **a second calling in scientific research**. This transition was not without difficulty; he openly shared his initial struggles and failures in the laboratory, emphasizing that persistence and resilience are essential to any meaningful scientific pursuit.

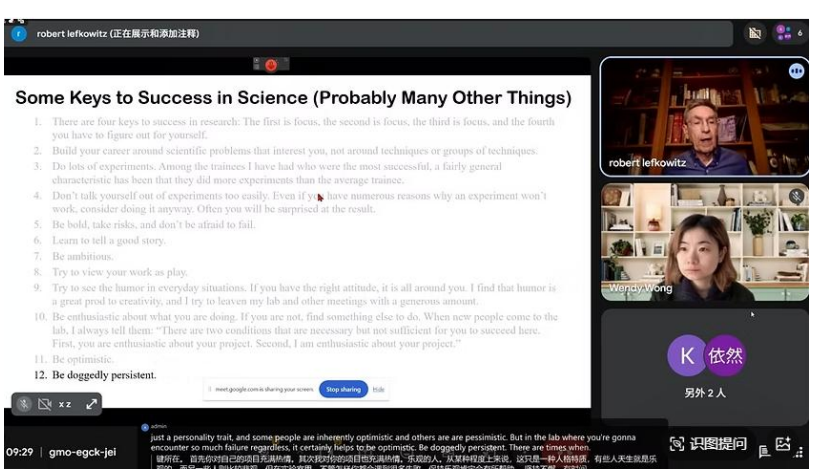
LUMINAI Public Lecture Recap

Professor Lefkowitz Recalling His Research Journey



The Discovery and Impact of GPCRs

Professor Lefkowitz's perseverance ultimately led to the discovery and characterization of **G protein–coupled receptors (GPCRs),** a breakthrough that has had a lasting impact on modern pharmacology. Today, GPCRs represent the largest family of receptors in the human genome and serve as targets for approximately one-third of all approved therapeutic drugs, underscoring their central role in contemporary medicine.



Keys to Success in Science

LUMINAI Public Lecture Recap

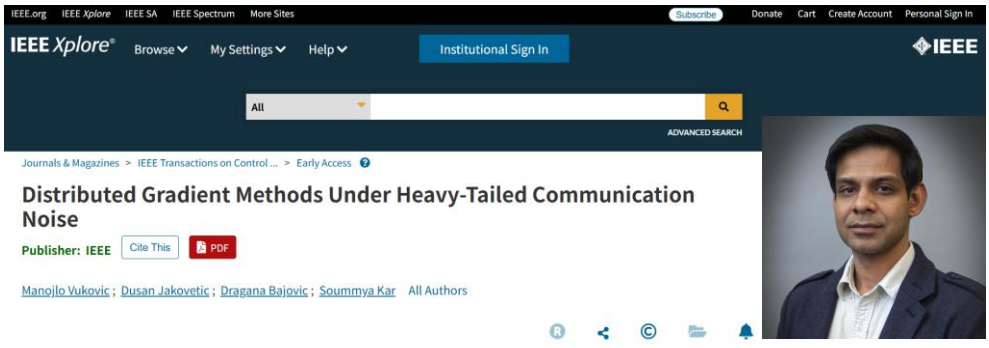
Recalling his scientific journey, Professor Lefkowitz offered a compelling reflection on what it takes to succeed in scientific research and in life. He highlighted several key principles: sustained focus, intellectual curiosity, willingness to take risks, and the ability to learn from failure. He encouraged students to pursue meaningful scientific questions rather than becoming overly attached to specific techniques, and to remain bold in the face of uncertainty. He also underscored the importance of mentorship, noting that guidance from experienced researchers can profoundly shape one's career trajectory.

The lecture concluded with an inspiring Q&A session, during which students engaged with topics ranging from recent advances in GPCR research to the broader implications of artificial intelligence for science. Professor Lefkowitz discussed the concept of "biased signaling", highlighting how different drugs acting on the same receptor can produce distinct biological effects. He also acknowledged the growing role of AI in accelerating discovery, particularly in areas such as protein structure prediction, while raising important questions about its ability to replicate human judgment in clinical and research contexts.

If you're interested in learning more about the LUMINAI series, please feel free to contact us at publicity@gecacademy.com.

Faculty Work Gallery

This month we introduced ***a paper*** *co-authored by* ***Professor Soummya Kar, the Buhl Professor of Electrical and Computer Engineering at Carnegie Mellon University.*** *If you are interested in showcasing your research, grants, book releases, conference presentations, or any work you deem valuable and interesting to share, please feel free to contact us at publicity@gecacademy.com.*



Distributed Gradient Methods Under Heavy-Tailed Communication Noise

Abstract:

We consider a standard distributed optimization problem in which networked nodes collaboratively minimize the sum of their locally known convex costs. For this setting, we address for the first time the fundamental problem of design and analysis of distributed methods to solve the above problem when inter-node communication is subject to an additive heavy-tailed noise. While existing works on distributed optimization under noisy communications usually assume either only communication quantization or additive light-tailed noise models, the additive heavy-tailed noise represents a more accurate and highly relevant algorithm-level abstraction to modeling impulsive, outlier-prone communication imperfections at physical and protocol layers such as quantization, channel erasure, packet dropouts, and interference. Specifically, we allow that the communication noise follows an arbitrary symmetric distribution with possibly infinite variance. For this setting, we design a distributed gradient-type method that features a carefully balanced mixed time-scale time-varying consensus and gradient contribution step sizes and a bounded nonlinear operator on the consensus update to limit the effect of heavy-tailed noise. Assuming heterogeneous strongly convex local costs with mutually different minimizers that are arbitrarily far apart, we show that the proposed method converges to a neighborhood of the network-wide problem solution in the mean squared error (MSE) sense, and we also characterize the corresponding convergence rate. We further show that the asymptotic MSE can be made arbitrarily small through consensus step-size tuning, possibly at the cost of slowing down the transient error decay. Numerical experiments corroborate our findings and demonstrate the resilience of the proposed method to heavy-tailed (and infinite variance) communication noise. We also show analytically and by simulation that existing distributed methods, designed for finite-communication noise-variance settings, fail in the presence of infinite variance noise.

M. Vukovic, D. Jakovetic, D. Bajovic and S. Kar, "Distributed Gradient Methods Under Heavy-Tailed Communication Noise," in *IEEE Transactions on Control of Network Systems*, doi: 10.1109/TCNS.2026.3662065.

GEC
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GEC Academy Celebrates FY25 Achievements and Marks the Start of Its 10th Anniversary Year

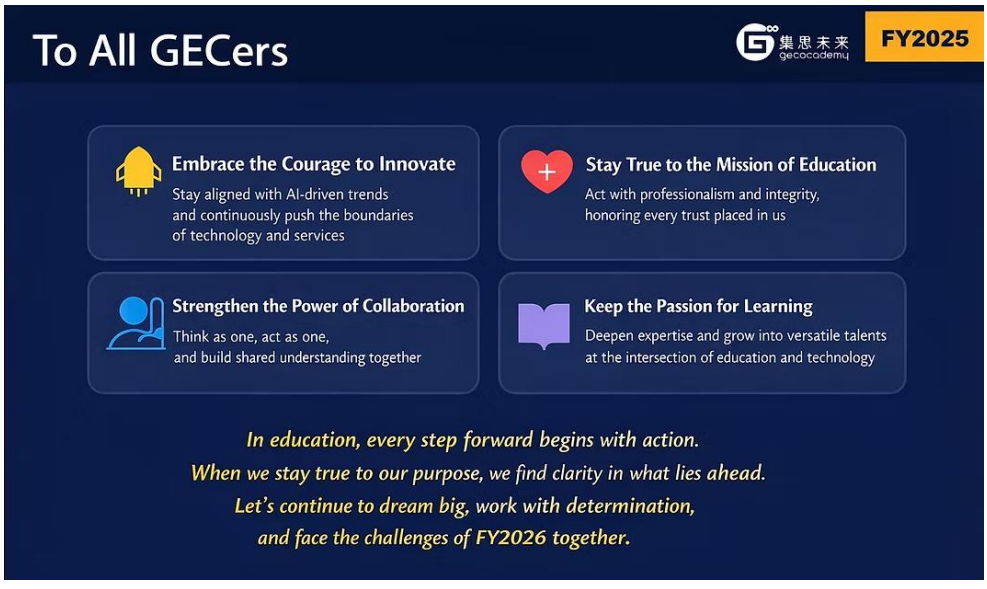
On March 27, 2026, GEC Academy held its 2025 Financial Year Celebration and Awards Ceremony online, marking the start of GEC's 10th anniversary year. This online gathering offered us a moment to reflect on a year full of challenges and achievements, recognize the dedication of individuals and teams who went above and beyond, and allow every GECer in the global community to share in the pride, excitement, and joy of our collective accomplishments.

Over the 2025 financial year, GEC faced a shifting education landscape with determination and creativity, qualities that came to define the spirit of every GECer. Staying true to GEC's educational mission, we continued to support students through our core overseas study programs while **steadily advancing a more diversified and upgraded product portfolio**.

Specifically, the opening of GEC's new **Regional Office in Suzhou** created a vibrant hub for AI-driven educational innovation and laid a strong foundation for our next decade of growth. At the same time, a number of key initiatives began to take shape. For example, the **Oxford Test of English Advanced** was introduced across major cities in China, expanding our capabilities in language assessment and international education services. Besides, GEC's **overseas learning experiences** continued to grow in both scale and energy. We also deepened our engagement in **youth science and innovation** through platforms such as **iCAN**, opening up more opportunities for students to explore AI, robotics, and autonomous systems in meaningful and hands-on ways. In parallel, GEC's strategic collaboration with the **Northern Consortium of UK Universities (NCUK)** led to the launch of the **Guangzhou International Study Center**, which is a significant step into the international pathway and foundation education space that further strengthens GEC's global education ecosystem.

GEC
CULTURE STORY

The award ceremony also offered a meaningful opportunity to recognize the people behind GEC's progress over the past year. This FY 2025's awards reflected the many ways GECers contributed to the company's development, from new colleagues who adapted quickly and showed strong potential, to experienced team members who brought consistency, professionalism, and dedication to their daily work, and to teams whose close collaboration turned shared goals into real results. Across different roles and business lines, what came through most clearly was a strong sense of ownership, a willingness to embrace change, and a shared commitment to growing with GEC.

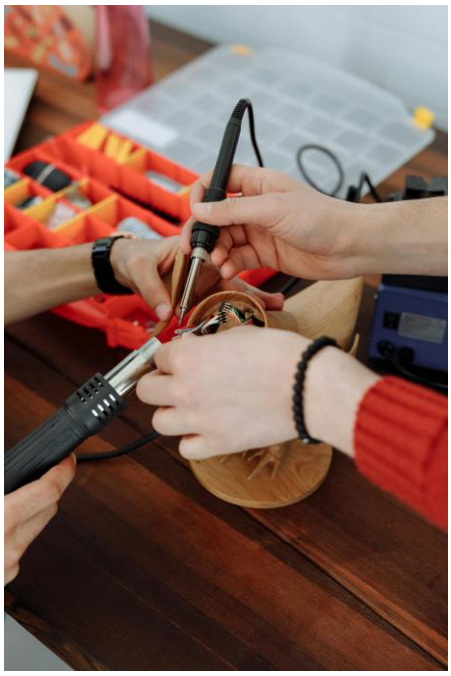


As GEC Academy steps into its 10th anniversary year, the 2025 Financial Year Celebration and Awards Ceremony served as both a reflection on how far we have come and a new starting point for what lies ahead. Looking ahead, we'll remain committed to evolving with the changing education landscape, continuing to build meaningful learning experiences, and creating greater value for students, global partners, and the broader community. With a stronger foundation, a more diverse ecosystem, and a team ready to take on new challenges, GEC will move forward with clarity, confidence, and a shared belief in what lies ahead.

AMAZING WORK FROM GEC STUDENTS

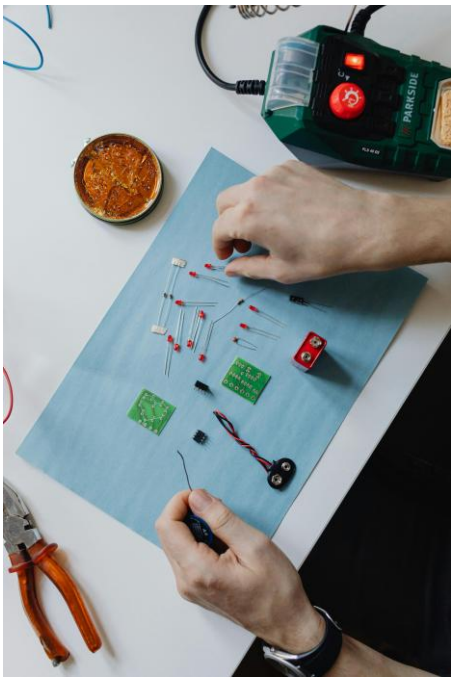
Each month, GEC will introduce some of our exceptional students' work in a specific research area to our audiences. This month we selected two articles from our previous students in the field of **Electrical Engineering.**

Optimization of 4-bit Absolute-Value Detector Focusing on Delay and Energy Consumption



This paper performs a set of optimization strategies and aims to design an optimal 4-bit AVD circuit. Traditionally, an AVD is a combination of an absolute-value taker and a comparator, where the absolute-value taker consists of several adders in series. This is power-consuming and causes significant delay. In this paper, given input is a 4-bit signed binary number, the absolute-valued taker is redesigned using only static CMOS logic gates to achieve a much shorter critical path with 9 stages. Then, this paper performs gate sizing of critical and non-critical paths by using logical effort to reach the minimum delay of 45.8unit delay and a unit energy consumption of 27.6. To adapt to practical use, this paper develops another optimization under the idea that trading 1.5 times delay to obtain a lower energy consumption...

Click **HERE** to read the full text!



Research on Circuit Performance Optimization Based on A 4-Bit Absolute Value Comparator

This paper proposes and implements a 4-bit absolute value detector based on logic gate-level design to address the amplitude detection requirements in low-power digital circuits. During the design process, the Boolean expression is first minimized and mapped to the standard logic gate. Subsequently, the logic effort method was adopted to model and analyze the critical path of the circuit, determining the critical path composed of 13 logic gates and the effort factors at all levels, and calculating the critical path delay. Under the constraint of worst-case delay $\leq 1.5\times D_{min}$, comparing the dynamic power consumption at VDD=1 V with that after optimizations reveals a significant reduction in energy consumption...

Click **HERE** to read the full text!

April 15, 2026

Join Us at ASI Global Technical Sponsorship Conferences: Open Calling for Committee Members & Speakers

We are thrilled to hear from our GEC faculty members, teaching fellows, teaching assistants (PhD holders), and scholars.

Since 2023, ASI Global has taken immense pride in its role as a technical sponsor for a diverse array of international academic conferences, with a vision entailing both promoting interdisciplinary cooperation and nurturing an inclusive, collaborative educational environment that extends its benefits beyond the scientific community to society at large. **Hence, we are enthusiastic about extending invitations to more of our esteemed GEC Faculty members and Teaching Fellows, encouraging your active involvement as committee members or innovative speakers and storytellers,** who are passionate about sharing innovative ideas with the brightest minds, providing enriching insights, offering innovative experiences, and sharing real-world examples, among other valuable contributions to ASI Global technical sponsorship conferences.

Upcoming Conferences

For April, we have 1 technical sponsorship conference covering mechanical engineering, electronic engineering, control system, automation of systems and beyond.

- April 24-26; Singapore
- The 2026 3rd International Conference on Mechanics, Electronics Engineering and Automation (ICMEEA 2026)

WHAT PROGRAMS DOES GEC OFFER IN MAR & APR SEMESTERS?

In March and April, GEC launches a total of **62 online research programs** in the areas of Economics, Marketing, Computer Science, Electrical Engineering, Mathematics, Biology, Psychology and so on, partners with **18** Chinese universities to develop students' global competence through the GEC Global Competence Development Course. In both months, GEC also provides **6 personalized programs** for Huaqiao University and Southwestern University of Finance and Economics, and sets up **3 customized lectures** for South China University of Technology and University of Electronic Science and Technology of China. We will continue to gather students, faculty, and staff for an unrivaled academic experience.

The tables below show detailed information about the programs:

2026 March Path Academics Program List,
2026 April Path Academics Program List,
Universities offering GEC Global Competence Courses in March 2026,
Universities offering GEC Global Competence Courses in April 2026,
GEC Personalized Programs for Universities in March 2026,
GEC Personalized Programs for Universities in April 2026,
GEC Customized Lectures for Universities in April 2026

Please click **HERE** to find previous program/course offerings.

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