

FEATURED STORY

Shenzhen Office's Milestone Move and Oxford University Interviewer Forum

On September 23rd, the GEC Shenzhen Regional Office celebrated a momentous occasion by commemorating its relocation, signifying a pivotal moment in GEC's growth story. This move reflects a substantial step forward for the GEC Shenzhen Regional Office, highlighting its dedication to delivering innovative educational programs and services in partnership with prominent entities in the academic and technology sectors within the Greater Bay Area. It also signifies the beginning of a new chapter in GEC's mission to continue providing enriched and accessible learning experiences for students.



A Chinese-Style Relocation Ceremony

The relocation ceremony was a vibrant blend of traditions and modernity, as a captivating lion dance performance, symbolizing good fortune and prosperity, kicked off the festivities. Esteemed representatives from GEC's partner organizations, including ArnoBio, OxfordAQA, Shanghai Jiao Tong University - GEC Center of Innovative Design for Interdisciplinary Studies, etc., graced the event. Colleagues from GEC's offline marketing, business development, and consultancy departments were also in attendance, sharing the joy of the moment.



Ribbon Cutting Moment at Shenzhen Regional Office



Office View of the New GEC Regional Office in Shenzhen

FEATURED STORY

As part of the grand relocation celebration, GEC also hosted the Oxford University Interviewer Forum immediately following the unveiling of the Shenzhen office. This forum provided a dynamic platform for over 100 distinguished guests from the Greater Bay Area, including university leaders, pioneers in the technology and innovation sector, outstanding student representatives, and experts in international education. Together, these diverse participants engaged in multifaceted, multi-perspective discussions and explorations centered around the theme of nurturing internationalized innovative talent.

During the forum, Mr. Lingbo Lyu, the Academic Director of OxfordAQA International Qualifications, presented an insightful analysis of A-level data and trends for 2023. The forum also had the privilege of hosting Professor Arhat Virdi, a Senior Faculty member from the University of Oxford, who shares a profound appreciation for GEC's education philosophy and has enjoyed a fruitful collaboration with GEC Academy as an instructor for years, brought experience as an admissions interviewer for the Finance and Economics Department at the University of Oxford. He shared invaluable insights into the admissions criteria and processes at the University of Oxford. The forum concluded with a stimulating round-table discussion exploring the topic of Cultivating Future-Oriented Internationalized Innovative Talent. Through this deep exchange of ideas, it provided invaluable insights to shape the future of international education.



Mr. Sheng Yan, President of GEC Academy Giving Opening Address at the Forum



The Round-table Discussion on Cultivating Future-Oriented Internationalized Innovative Talent (From left to right, the individuals in the photo are: Mr. Sheng Yan, President of GEC Academy; Professor Arhat Virdi, Senior Faculty at the University of Oxford; Mr. Lihao Yang, Head of Quality Education for AP & A-Level Programs at Guangzhou Foreign Language School; Miss Shuchen Li, a G12 Student Representative at Shenzhen College of International Education.)

At GEC, besides sharing the excitement of the Shenzhen office's relocation, we would also like to express our gratitude for the dedication of our teaching faculty, the support of our business partners, and the contributions of our GEC colleagues. Looking ahead, we will remain committed to expanding collaborations with additional educational resources and Chinese universities to enhance educational services for a broader student community.



A Group Photo at the Forum

The Revolutionary Power of Single-Particle Cryo-EM: Visualizing Reactions Between Biological Molecules with Nobel Laureate Joachim Frank

On September 27th, GEC Academy successfully hosted the Global Top Scientists Forum featuring an illuminating online open lecture delivered by Professor Joachim Frank, Nobel Laureate and Professor of Biochemistry and Molecular Biophysics and of Biological Sciences at Columbia University. The lecture on the theme of **Visualizing Reactions Between Biomolecules by Single-Particle Cryo-EM** drew a diverse audience comprised mostly of university students specializing in Physics, Biology, and Chemistry. It provided a comprehensive overview of the current hot topic of cryo-electron microscopy, delving into its recent developments, exploring its prospects in great depth, as well as shedding light on the capability of single-particle cryo-EM in visualizing biomolecular interactions, inspiring attendees to push the boundaries of biomolecular research and chart new courses in scientific discovery.

The development of cryo-electron microscopy is largely attributed to Professor Frank's groundbreaking work on image-processing techniques, for which he was granted the 2017 Nobel Prize in Chemistry. He was inducted into the American Academy of Arts and Sciences and the National Academy of Sciences in 2006, and he was elected a Fellow of the American Association for the Advancement of Science and the Biophysical Society in recognition of his outstanding contributions to the scientific community.

Cryo-EM has shown itself to be an invaluable tool in the field of structural biology research, Professor Frank stated, the three-dimensional structure and biological interactions of biomolecules can be reconstructed with atomic resolution in a near-natural state. Therefore, cryo-electron microscopy has been widely used as an important tool to reveal the structure of biomolecules including viruses, ribosomes, proteins, and protein complexes, and Cryo-EM could be able to capture the transient structural states of functional macromolecules on a time scale of 1ms.

Revolutions in 3D electron microscopy of biological molecules

PAST:

- Single-particle reconstruction 1975 – 1987
- Frozen, hydrated sample preparation (cryo-EM) 1981 – 1986
- Direct electron detectors 2005 – 2012

SOFTWARE

SAMPLE PREP

HARDWARE

FUTURE:

- Time-resolved single-particle techniques
- Mapping of states in a continuum
- Visualization of molecules in situ by cryo-electron tomography

admin: we will see the thermal fluctuations in the states of these molecules and can find something out about their energy landscape. And in what and what we are all waiting for is

admin: 万粒粒上百万, 所有的分子在同一时间, 然后我们会看到响应, 这些分子状态的波动可以反映它们的能量分布, 我们在等待什么

The revolutions in 3D electron microscopy of biological molecules and its future

First Golden Age of Single-Particle Cryo-EM

E. coli ribosome, Octopus hemocyanin, Calcium Release Channel

Frank et al., Nature 1995, Lambert et al., 1994, Rademacher et al., 1994

Second Golden Age of Single-Particle Cryo-EM

T. cruzi ribosome, Calcium release channel, AMPA receptor

Liu et al., PNAS 2016, Des Georges et al., Cell 2016, Twomey et al., Nature 2017

admin: before with much higher resolution. All these three molecules, and many more were done in my lab, but increasingly

admin: 在有了更好的分辨率, 我们重建的分子是比之前更精细的, 我们重建的分辨率是在2016年之前, 这些分子可以重建在之前我们重建的分辨率, 分辨率更高, 我们重建的分子, 这些分子在之前我们重建的分辨率, 但是

The First and Second Golden Age of Single-Particle Cryo-EM Introduction

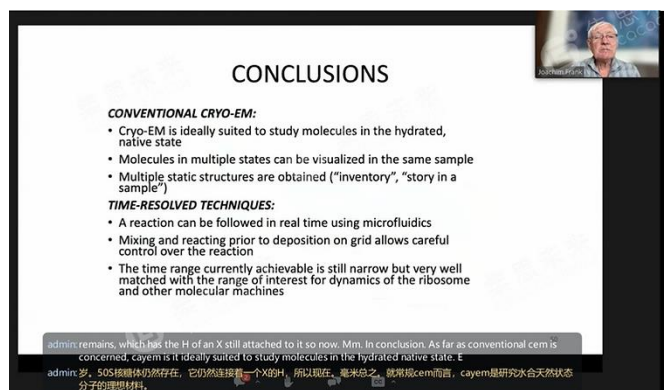
Professor Frank gave a thorough overview of the three evolutionary steps that three-dimensional electron microscopy of biological molecules has taken, as well as the future paths that the field is expected to take. He noted that single-particle cryo-EM saw its first golden age after the first and second revolutions, when the exquisite structures of the ribosome, various hemocyanin forms, and the calcium release channel were obtained, revealing detail never seen, albeit at a relatively low resolution. Single-particle cryo-EM, which boasted structural resolutions as high as 2Å to 3Å, began its second golden era after the third revolution. In addition, Professor Frank emphasized the recent significant advancements in this field, such as time-resolved cryo-electron microscopy, mapping states in a continuum, and cryo-electron tomography representations of molecules in situ.



Innovations of PDMS-based microfluidic biochip

An innovation of Cryo-EM of PDMS-based microfluidic chip was highly emphasized by Professor Frank, which was designed by his student Dr. Xiangsong Feng. A high-efficiency mixer, SO₂ coating preventing molecular adhesion, a 3D sprayer, and control of ice thickness were set up on Cryo-EM. The purpose of the microfluidic chip is to prepare biological samples that are more in line with the requirements of the experimental level. So, when compared to conventional methods, Feng proposed is more practical, more cost-effective, and more efficient. On the other hand, the topic of the combination of Cryo-EM and biochips will become one of the important development directions.

At the end of the lecture, students had a heated discussion on the application of cryo-EM in medicine with professors Frank. Moreover, he pointed out that technological breakthroughs in single-particle cryo-electron microscopy have pushed structural biology into a new era. With the development of many new technologies, the field of cryo-electron microscopy also has many aspects that can continue to improve. Examples include optimizing image contrast, new sample preparation techniques, and even incorporating more physics, materials science, and computer science techniques



Features comparison between conventional cryo-EM and time-resolved techniques

What's next

October 18th will witness the upcoming Global Top Scientists Forum on the theme of "The Future of Cybersecurity and IoT" via Zoom meeting (<https://us06web.zoom.us/j/83873673551>) from 20:00 to 21:00, Beijing time. The forum is open to all interested individuals, and the meeting ID is 838 7367 3551.

Global Top Scientists Forum is an initiative to create an interactive platform for global scientists and students to exchange ideas. GEC Academy is very pleased to have our faculty bring insights on a wide range of topics across diverse fields. For those who might be interested in working with GEC, please feel free to contact our outreach specialist, Katrina, at katrina.wang@gecacademy.com. GEC faculty who are interested in giving a speech at the next Global Top Scientists Forum should contact their academic manager.

RSVP: A Comprehensive Looking Back on Summer Research Program

Invitation to
2023 October
Faculty
Meeting

**For our October Faculty Seminar
(October 25th, Wednesday, 22:00-23:00, Beijing Time),**

Our triumph in the 2023 Summer Research Program owes much to the invaluable contributions, tireless dedication, and unwavering support of our esteemed GEC Teaching Faculty. Thus, beyond rejoicing in our shared achievement, we are thrilled to invite you to GEC's October Faculty Meeting, to seek your active participation in recapping the program's highlights, sharing your anecdotes and epiphanies, and shedding light on your roles in making this year's program exceptional. We'll delve into a comprehensive review of the GEC Summer Research Program in an open, candid dialogue, where each member of the faculty is encouraged to provide valuable feedback and offer suggestions.

Meanwhile, we're now shifting our focus to the meticulous planning underway for the 2024 Winter Research Program, scheduled for January 28th - February 6th 2024. Your presence and active involvement in the October Faculty Meeting will be instrumental in steering this program towards even greater excellence.

[Here](#) is a tool for time zone converting.

Once again, a grand welcome to you all to attend October's online seminar.

Join Zoom Meeting <https://zoom.us/j/88016265657>

Meeting ID: 880 1626 5657

Passcode: GEC123

For participants, please find [RSVP](#) here!

Faculty Work Gallery

This month we introduced [a paper](#) from [Professor Roberto Zenit](#). 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.

Presence of surfactants controls the stability of bubble chains in carbonated drinks



The screenshot shows the APS website interface. At the top, there are navigation links for 'Journals', 'Physics Magazine', and 'Help/Feedback'. Below this is a dark blue header for 'PHYSICAL REVIEW FLUIDS' with a navigation menu including 'Highlights', 'Recent', 'Accepted', 'Collections', 'Authors', 'Referees', 'Search', 'Press', 'About', and 'Editorial Team'. A profile picture of Roberto Zenit is visible on the left. The article title is prominently displayed, along with a 'Featured in Physics' and 'Editors' Suggestion' badge. The authors listed are Omer Atasi, Mithun Ravisankar, Dominique Legendre, and Roberto Zenit. The article is from 'Phys. Rev. Fluids' volume 8, page 053601, published on May 3, 2023. A 'Physics' logo and a link to 'See synopsis: Straight Lines for Champagne; Wonky Ones for Cola' are also present.

Author Information

[Roberto Zenit](#)

Royce Family Professor of Teaching Excellence in Engineering
School of Engineering
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Abstract

Bubbles appear when a carbonated drink is poured in a glass. Very stable bubble chains are clearly observed in champagne, showing an almost straight line from microscopic nucleation sites from which they are continuously formed. In some other drinks such as soda, such chains are not straight (not stable). Considering pair interactions for spherical clean bubbles, bubble chains should not be stable, which contradicts these observations. The aim of this work is to explain the conditions for bubble chain stability. For this purpose, experiments and direct numerical simulation are conducted. The bubble size as well as the level of interface contamination are varied to match the range of parameters in typical drinks. Both factors are shown to affect the bubble chain stability. The transition from stable to unstable behavior results from the reversal of the lift force, which is induced by the bubble wake. A criteria based on the production of vorticity at the bubble surface is proposed to identify the conditions of transition from stable to unstable bubble chains. Beyond carbonated drinks, understanding bubble clustering has impact in many two-phase problems of current importance.

Please click [HERE](#) to find more information about the paper.

GEC CULTURE

GEC 2023 Summer Research Program: Professors' Interview Special | Episode 1



In this captivating series, we take you behind the scenes of the GEC Summer Research Program, providing an exclusive glimpse into the minds of distinguished professors driving innovation and knowledge forward!

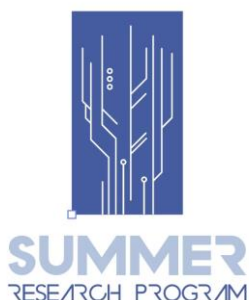
Click [HERE](#) to watch the full video on YouTube!

Exclusive Interview with Charles



In this exclusive interview, Charles shares a thrilling journey through his unforgettable summer research experience attending the Database Design and Management program. He opens up about the exhilarating highs and enlightening moments he encountered during his summer research adventure, like the challenges he successfully conquered, and the valuable insights he gained along the way. It's a front-row seat to the inner workings of a dynamic program that left an indelible mark on Charles's academic journey.

Click [HERE](#) to watch the full video on YouTube!



Introducing New Faces

We're pleased to welcome 2 new faces to the GEC team - **Huixin & Yi!**



Huixin Jiang (Becky)

becky.jiang@gecacademy.com

01 Educational background:

Bachelor of Arts in English, Heilongjiang International University

02 What are your current duties?

I currently hold the position of Course Coordinator for GEC's online programs and am an integral member of the Application Team. In my role as a Course Coordinator, my primary focus is to establish a vital line of communication between students and professors. I provide comprehensive support for various projects, and I'm dedicated to resolving any challenges that students may encounter throughout their program. Furthermore, I diligently track and report on student progress to professors in a timely manner, ensuring the seamless and successful progression of the program.

Simultaneously, as a member of the Application Team, I am entrusted with the responsibility of meticulously reviewing the information submitted by students in their requests. Once the information is verified, I promptly relay it to the professors, enabling them to work with maximum efficiency.

03 What made you choose GEC Academy?

I was drawn to GEC due to its wealth of resources and the outstanding team it boasts. GEC Academy, in particular, exemplifies the organization's deep-seated dedication to offering students a glimpse of PBL courses, thereby providing them with invaluable opportunities for direct engagement and interaction with esteemed professors. Throughout my time at GEC, I have had the privilege of acquiring a wealth of new knowledge and forging connections with numerous exceptional professors. I am resolutely confident that my growth will be intricately intertwined with the development and success of GEC.

04 What are your specialisms and interests?

With six years of dedicated service in the education industry, I've had the privilege of supporting thousands of students in various aspects of their academic journeys. These experiences have enriched me with a wealth of expertise and skills in this domain, equipping me to adeptly manage diverse challenges and address student concerns with poise and professionalism.

Outside of my professional life, I am an individual with a broad spectrum of interests. I'm always eager to explore new experiences and embrace the unfamiliar. I frequently organize outdoor activities such as hiking and camping, extending invitations to friends to join me in these adventures. Additionally, I find solace and inspiration in the world of jazz music and live concerts. These pursuits serve as the wellspring of motivation in my life, for I firmly believe in the mantra that life is meant to be lived to the fullest.

Introducing New Faces

We're pleased to welcome 2 new faces to the GEC team - **Huixin & Yi!**

01 Educational background:

Bachelor of Arts in English, Jilin Business and Technology College

02 What are your current duties?

I currently hold the position of Course Coordinator at GEC Academy. In this capacity, my primary responsibility revolves around overseeing the progress of our projects. I take the lead in ensuring the smooth operation of classes and offer support to students, aiding them in resolving any challenges they may face throughout their courses. Equally vital is my role in maintaining open and effective communication with our esteemed professors, as this collaboration plays a pivotal role in ensuring the flawless execution of our projects.



Yi ZHENG (Maxine)
yi.zheng@gecacademy.com

03 What made you choose GEC Academy?

I've dedicated nearly four years to the education sector, and in this time, I've accumulated a wealth of varied experiences. It has been a privilege to engage with students, educators, and institutions, all of which have allowed me to make significant contributions to the advancement and enhancement of educational programs. The illustrious reputation of GEC as a leading institution in the industry, coupled with its extensive collaborations with instructors, is genuinely inspiring to me.

04 What are your specialisms and interests?

What truly fuels my passion in this role is the awareness that we are instrumental in helping students realize their dreams of attending their desired universities. Education, I firmly believe, is a profoundly transformative experience, and I consider it a great privilege to play a part in this transformative journey. Being able to witness students reach their aspirations, acquire knowledge, and evolve into improved versions of themselves is profoundly rewarding.

Music has held a significant place in my life, and I find solace and contentment through strumming the ukulele. It offers me a sense of relaxation and an avenue for self-expression, serving as a vital source of balance in my life.

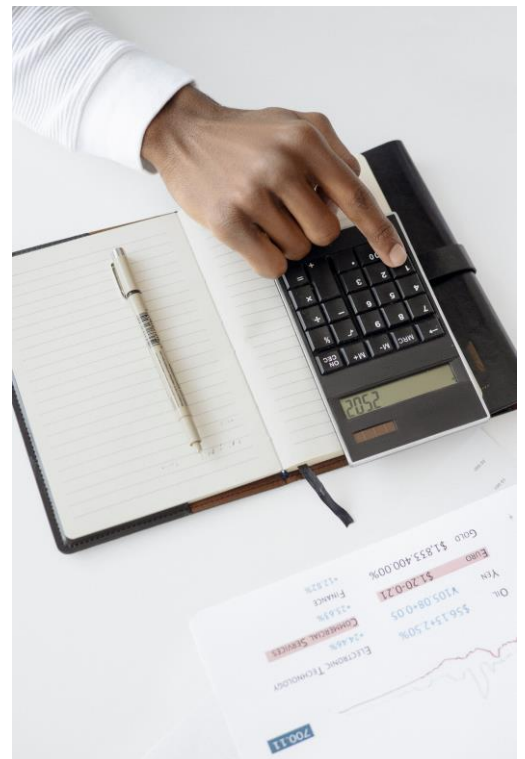
AMAZING WORK FROM GEC STUDENTS

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 **Accounting**.

Correlation between Types, Precision and Accuracy of Management Earnings Forecasts

This paper examines the impacts of the types and precision of management earnings forecasts (hereafter MEFs) on the accuracy of MEFs of listed companies in China. The empirical results show that compared with voluntary disclosure, mandatory disclosure has higher accuracy. In addition, the higher the precision of the company's MEFs, the more accurate the information contained in the MEFs, and the higher the accuracy of the MEFs. The conclusion of this paper enriches the influencing factors of the accuracy of company MEFs, which not only helps investors to make investment decisions but also provides a theoretical basis for regulatory authorities to formulate regulatory policies.

Click [HERE](#) to read the full text!



The Financial Statement Analysis of Johnson & Johnson

This essay examines whether the turmoils that have hit Johnson & Johnson have had a negative impact on Johnson & Johnson's financial situation over the last five years by calculating and analyzing the company's financial ratio. Through the analysis of the data and financial ratios obtained, Johnson & Johnson's overall profits have been on the rise in recent years due to its excellent marketing and management strategies. It is a worthwhile company for investors to invest in. However, in the long run, if Johnson & Johnson does not find a way to address the damage to its reputation and improve the quality of its products to increase consumer trust in the brand, then the value of Johnson & Johnson will still be on a downward slope.

Click [HERE](#) to read the full text!



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



Since 2023, GEC Academy 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 GEC technical sponsorship conferences.

We are thrilled to hear from our GEC faculty members, teaching fellows, teaching assistants (PhD holders), and scholars whose expertise aligns with conference themes and interdisciplinary intersections below. Please feel free to send your CVs, resumes, bibliographies, or personal links to the specific conference contact email for detailed information. For experts and scholars seeking technical sponsorship, who are passionate about initiating international conferences, and wish to contribute to global academic exchange, please do not hesitate to contact us at conference@gecademy.com.

Upcoming Conferences

- November 3-5th, Singapore
2023 International Conference on Education, Psychology and Cultural Communication
- November 3-5th, Singapore
2023 International Conference on Frontiers of Biological Sciences and Environmental Health
- November 24-26th, Shanghai, China
2023 International Conference on Mechatronic Automation and Electrical Engineering

Please click [HERE](#) to explore these exciting upcoming events!

WHAT PROGRAMS DOES GEC OFFER IN OCTOBER 2023 SEMESTER?

In October, GEC launches a total of 43 online research programs in the areas of Finance, Economics, Computer Science, Electrical Engineering, Chemistry, Mathematics, Astrophysics, Social Sciences and Humanities and so on, partners with 3 Chinese universities to develop students' global competence through the GEC Global Competence Development Course and provides 5 personalized programs for Shenyang Institute of Technology, and Hubei University of Technology. This month, GEC also set up 3 customized lectures for Fujian Medical University and Southwestern University of Finance and Economics. We will continue to gather students, faculty, and staff for an unrivaled academic experience.

The tables

[GEC 2023 October Program List,](#)

[Universities offering GEC Global Competence Courses in October 2023,](#)

[GEC Personalized Programs for Universities in October 2023,](#)

[GEC Customized Lectures for Universities in October 2023](#)

show detailed information about the programs that GEC launches in October.

Please click [HERE](#) to find previous program/course offerings.

Newsletter Improvement Survey

We would love to hear your thoughts or feedback on how we can improve your experience with our newsletter.

For your convenience, please click [HERE](#) to fill out the survey link.

GEC Academy

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