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Editors' Note

This issue opens with a special foreword honoring the memory of **Academician George C. Tiao (1933–2026)**, the founding Chair Editor of *Statistica Sinica*. Invited by the current Co-Editors, Professors Xiao-Li Meng, Ruey S. Tsay, and Qiwei Yao have written this commemorative article, reflecting on Professor Tiao's scientific legacy and his enduring influence on the statistical community. The article incorporates an AI-assisted conversation about his published writings and speeches. We hope that readers will enjoy this thoughtful tribute to a distinguished scholar, mentor, and leader whose vision continues to inspire *Statistica Sinica*.

Ian W. McKeague, I-Ping Tu, and Hui Zou
Co-Editors (in alphabetical order)

Foreword

LIVING IN THE AGE OF AI: A POSTHUMOUS INTERVIEW OF PROFESSOR GEORGE TIAO

Being able to communicate with those who have left us has been a daydream for many (and a nightmare to some). Although the daydream continues, the current AI technologies get us almost there, as we demonstrate in this article dedicated to the memory of Professor George Tiao, a mentor to all three of us. Collectively we compiled 10 questions that we would like to ask George if he were still with us. We fed the questions to Codex (on August 22, 2026), with the instruction that the answers should mimic George's voice as much as possible, based on his speeches and writing that Codex could find and access, and that the whole piece should not exceed 1,800 words. In less than a minute (and without any iterative prompting), Codex produced the following, presented verbatim, including its title and subtitle (which we did not ask).

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AN EDITORIAL RECONSTRUCTION: A CONVERSATION WITH PROFESSOR GEORGE C. TIAO

Editorial reconstruction based on Professor Tiao's published work and interviews;the answers are not historical quotations.

Q. In light of modern developments in MCMC and Bayesian approaches to data science, what are the lasting impacts of your research in Bayesian inference?

A. I came to Bayesian work through George Box, at a time when it was not the fashionable route. What persuaded me was its directness: one should begin with the data, the likelihood, and the assumptions one is prepared to make. Bayesian analysis made it possible to examine those assumptions openly, especially when robustness mattered. The lasting lesson is not that one must carry a Bayesian label. It is that inference should be coherent, transparent about uncertainty, and responsive to the scientific question. MCMC has made many calculations routine that were impossible in my student days, but computation should not replace thought about models, priors, diagnostics, and consequences.

Q. You believed deeply that statistical research should focus on practical usefulness, and that any statistical method that works in practice must have a theoretical justification. Could you highlight some examples from your research that clearly demonstrate this belief?

A. I have always preferred problems that came from somewhere real: economic series, telephone demand, ozone, air pollution, and seasonal data. An application tells us what must be modeled and what a useful answer looks like. But practicality alone is not enough. A method should also tell us why it behaves as it does, what assumptions support it, and how it can fail. Intervention analysis, model-based seasonal adjustment, and environmental trend work all grew from that combination: a concrete problem, a stochastic model, and careful checking against the data. The two sides should not be separated. Good theory makes practice more reliable; serious applications keep theory honest.

Q. Your 1977 joint paper with George Box in Biometrika effectively addressed the phenomenon later termed cointegration by Clive Granger in the 1980s. Granger received the 2003 Nobel Prize in Economics for his significant contributions to cointegration. Does this history suggest that giving a scientific discovery a memorable name can be important—perhaps nearly as important as the discovery itself? Looking back, what thoughts would you share?

A. Names can certainly help a field communicate, but they are not a substitute for an idea. Our work considered how a persistent disturbance and a change in

level should be represented in a nonstationary series. Later work on cointegration gave a powerful language and a much broader framework to important economic relationships. Historical credit is rarely a simple matter; ideas are often prepared by several people and clarified by those who follow. My own preference is to ask whether a formulation helps researchers recognize a real problem, analyze it correctly, and use it responsibly. A memorable name is useful when it does that, but the science must carry the name.

Q. What were your most important contributions to seasonal adjustment? Because seasonal adjustment is widely used in government economic data, could you summarize the policy implications of your research in this area?

A. Seasonal adjustment should not be treated as a mechanical filtering exercise. With colleagues, especially Steven Hillmer and William Bell, I tried to put it on a model-based footing: distinguish the seasonal, trend-cycle, and irregular components, and make the uncertainty and revisions visible. For official statistics, that matters because policy makers often act on small month-to-month movements. They need to know what has been removed, how stable an estimate is, and whether an apparent change is signal or noise. The policy lesson is modest but important: statistical adjustments should be explainable, reproducible, and accompanied by enough diagnostics that users do not mistake a processed number for an unquestionable fact.

Q. You strongly believed that econometrics and statistics must collaborate to advance theory and applications. Your work on the NBER-NSF time series conferences is one example. How important is this belief in modern data science, and how can we follow your lead to promote such collaborations?

A. Very important. Time series has always lived at the boundary between statistics, economics, engineering, and many sciences. The NBER-NSF meetings were valuable because they brought people with different languages but related problems into the same room. Econometricians often brought substantive questions about economies and decisions; statisticians brought tools for uncertainty, modeling, and diagnostics. Modern data science needs such exchanges even more. We should organize around difficult problems rather than departmental labels, invite people early enough to shape the question, and give young researchers opportunities to learn one another's standards. Collaboration is not a ceremony after the method is finished; it is part of how better methods begin.

Q. You were both a leader and a builder of our profession. You founded this very journal, *Statistica Sinica*, as well as ICSA, and you played

critical roles in building academic departments, conferences, and educational programs throughout your distinguished career. Could you share the wisdom and lessons you gained for younger generations inspired to follow in your footsteps—or, more provocatively, why they should follow them?

A. I would not urge anyone to follow another person's footsteps too closely. Every generation has its own opportunities. But I would encourage them to build something that outlasts a paper: a seminar, a course, a conference, a journal, or a community in which others can do their best work. ICSA and *Statistica Sinica* began from a simple need for communication and a conviction that a global Chinese statistical community could support work at the highest standard. Institutions require patience, trusted colleagues, and a willingness to share credit. If younger colleagues take anything from my experience, I hope it is that service and scholarship need not compete. Building a field can itself be intellectual work.

Q. Many of your research articles concern forecasting. One of your ideas is adaptive forecasting, which estimates parameters according to the forecast horizon. In your 1993 Biometrika paper with Daming Xu, you developed this idea, which is now widely used in machine learning and AI but receives less emphasis in the statistical literature. What can we do to promote this important idea within the statistics community?

A. The basic point is very simple: the model or procedure chosen for a one-step forecast need not be best for a long-horizon forecast. We studied this in the setting of exponential smoothing and multi-step prediction. If the objective changes with the horizon, estimation should respect that objective. Today this lesson fits naturally with machine learning, where prediction systems are often evaluated for a particular use and time scale. To promote the idea, we should teach forecasting as decision-oriented rather than as a contest over a single fitted model. Papers, courses, and benchmark studies should report performance across relevant horizons, explain the loss being minimized, and distinguish elegant in-sample fit from useful forecasts.

Q. When you teach time series, you have repeatedly said that the most important models are AR(1), MA(1), ARMA(1,1), and ARIMA(0,1,1). Could you elaborate on why these simplest models are so important for learning time series?

A. Because they teach the central habits of time-series thinking without hiding them in too much algebra. AR(1) shows persistence; MA(1) shows the effect of a shock that disappears; ARMA(1,1) shows that different mechanisms can produce similar-looking data; and ARIMA(0,1,1) brings differencing and forecasting into

a form that is both simple and widely useful. If students understand these models well, they can reason about stationarity, invertibility, autocorrelation, forecasting, and model diagnostics. More elaborate models are sometimes necessary, but complexity is not a virtue in itself. One should first learn what a small model says and what the data are asking it to explain.

Q. Based on your research contributions, how would you assess AI and machine learning?

A. I would welcome their energy and their practical success. The world has become far more quantitative, and many important decisions now depend on data. But I would also ask the old questions. What is the target? What data-generating features matter? How stable is the result when the setting changes? How do we measure uncertainty, diagnose failures, and communicate limits to users? Machine learning can discover useful patterns, but statistics has much to contribute in connecting patterns to decisions, mechanisms, and responsible evidence. The most promising future is not a contest between fields. It is a partnership in which computation, domain knowledge, and statistical reasoning strengthen one another.

Q. Taking your life experience as a whole, both as a scholar and as a leader, what advice would you give current students as they enter the age of AI?

A. Learn the fundamentals well, but do not mistake fundamentals for a closed curriculum. Find an application area you care about, work with people who know it deeply, and let real problems teach you what you do not yet know. Be ambitious about rigor and modest about conclusions. Treat colleagues generously, especially students and younger researchers, because a profession is sustained by people as much as by results. Finally, do not be discouraged if your path is indirect. Mine began in economics and banking, and statistics came to me almost by accident. What mattered was staying curious, being willing to learn, and trying to make useful things better.

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Regardless of whether you like or hate (or both) AI, we take it that you are likely to agree with us that these answers are direct, informative, wise, blending statistical wisdom with sage advice. The only noticeable defect we can identify is the omission of the name of William P. Cleveland, whose work with George, published as Cleveland and Tiao (1976), provided a concrete model to justify seasonal adjustment. This work laid the foundation for the later work by George with Hillmer and Bell (e.g., Hillmer, Bell and Tiao, 1983), as mentioned in the

fourth question above. (It is worth reminding readers not to confuse William P. Cleveland with another well-known statistician, William S. Cleveland, who sadly also passed away this year, almost a month before George's passing on April 25, 2026).

We choose to conduct this AI interview not merely to leverage the power of large language models for summarizing and synergizing, but also for engaging ourselves with a large question of the day that we know George would have been very interested in exploring with us. It is a question many would ask in such contexts: how trustworthy are such AI answers, and related, how can one tell—if we didn't disclose their origins—if these answers were generated by AI, a human, or a mixture of both? Current opinions are strong and vary; the recent article in The New Yorker by Kang (2026) is just one of many. To follow George's advice, we explore these practical questions with a theoretical lens, namely, by contemplating the question "trustworthy for what?", or in statistical terms, what is the estimand here?

We can think of at least four (counterfactual) estimands, had George still been with us and able to respond on August 22, 2026 (or shortly thereafter, for written versions):

1. A direct transcript of an oral interview;
2. An AI-polished and condensed transcript of that interview;
3. A written response composed by George; and
4. A written response based on George's dictation.

For estimands 1 and 3, differences in presentation style from Codex's responses would likely be relatively easy to detect. AI-generated text tends to be highly polished and, when subject to a word limit, compact. The written interview with George conducted by Peña and Tsay (2010), based on an oral interview, provides a useful benchmark for such stylistic comparisons. For estimands 2 and 4, however, the differences could be much smaller, depending on how the AI was instructed and on who served as George's writer in estimand 4. Given the health challenges George faced in recent years, it is nearly certain that, had he still been with us and able to respond, he would not have prepared the written response by himself. As AI-assisted summarization and transcription have become increasingly common, there is also a substantial possibility that George—or, more precisely, those assisting him—would have used an AI tool in preparing the response. Thus, once our counterfactual is conditioned as closely as possible on the actual circumstances, the difference between the Codex responses

and those counterfactually we could have obtained from the real George may well be insignificant in both style and content.

Of course, representations should never be mistaken for reality. Our confidence in trusting the messages delivered via Codex comes from our collective familiarity with George's statistical insights and his sage advice to friends and colleagues, especially to younger generations. A telling example was his advice to a new department chair on dealing with politics (which is inevitable for anyone who wants to make a change): "Never lie, but you don't need to tell everything." (Incidentally, this seems to be very good advice for the current AI algorithms, as they tend to produce too much, including lies and hallucinations.)

George's advice to and impact on each of us are far too numerous to list in an article with such space constraints. We therefore only include a brief personal account from each of us (in alphabetical order by first name).

Qiwei Yao: I always see George as a pioneer figure in time series research and application, and an influential leader in our profession especially through ICSA and *Statistica Sinica*. George was instrumental in establishing the Department of Business Statistics and Econometrics at Guanghua School of Management, Peking University in 2002. Through Guanghua, I interacted closely with George, and it was my privilege to have him as a mentor, teacher, and friend. His personal influence on how I view ARIMA time series is partially reflected in the difference between the relevant chapters in my 2003 Springer book (Fan and Yao, 2003) and 2017 Cambridge University Press book (Fan and Yao, 2017).

Ruey Tsay: George was my thesis advisor, a wonderful colleague at Chicago Booth, and a dear family friend for over forty years. He guided my research, recruited me to the University of Chicago and led me to ICSA and *Statistica Sinica*.

Xiao-Li Meng: Like Ruey, George initiated my recruitment to the University of Chicago, when I didn't even know that I could graduate. George trusted me in my first year as an assistant professor (1991–1992), to help screen submissions to *Statistica Sinica*, as well as inviting me to his TIGER team to work with a group of geophysicists and statisticians on ozone depletion and other environmental problems. I also deeply appreciate his warmth and friendship and miss dearly the time we shared over bottles and cups. All of these have profoundly influenced how I grew professionally, from research to becoming a founding editor myself, and to establishing Vine to Mind, an annual symposium at the interface of data science, AI technologies, and wine.

Unfortunately, when Vine to Mind was established (in 2024), George's health was such that I was unable to share my experience with him and seek his advice

(though I was able to elicit his familiar warm smile by serving him his favorite inspirational Chinese beverages during his birthday parties hosted by his children). But now I can do so via George AI.

Meng: "George, I am delighted to share a new project with you: Vine to Mind. Drawing on your experience in organizing the NBER-NSF Time Series conferences, the 'Making Statistics More Effective in Business Schools' conference, and ICSA, what advice and lessons would you offer for building Vine to Mind into a respected global brand and community? And, on a lighter note, which wine would you choose for a toast in your honor and memory?"

AI-George: "My first advice is to build a community before building a brand. The conferences that worked brought together people with different languages but shared problems. Vine to Mind can connect wine, science, data, technology, markets, and human judgment, without any one of them dominating. Second, set high standards, but keep the conversation open, and let each gathering leave something useful behind: new collaborations, published ideas, better questions. For a toast, I would choose a good wine to be shared at a table with friends, colleagues, and younger people; the pleasure is also in the conversation it begins."

(Another set of sage advice, of course. AI-George's refusal to name a specific wine choice is expected, since there is little public record on George's wine preferences.)

We want to conclude by expressing our thanks to new co-editors Ian McKeague, I-Ping Tu, and Hui Zou for the invitation to contribute an editorial-style article to the summary of George's accomplishments and impact for *Statistica Sinica*, a journal George founded 35 years ago. As we have seen, founding *Statistica Sinica* was only one of many George's impactful contributions to our profession and beyond, and indeed we doubt any single individual can summarize them well. We hope that the AI-George has done a reasonable job in highlighting the most impactful contributions the real George made, both as a scholar and as an academic leader. Of course, we will not miss the opportunity to ask George for his thoughts and advice on the 35th anniversary of *Statistica Sinica*.

Q. George, as you know, this year marks the 35th anniversary of the launch of *Statistica Sinica*. As its founding Chair Editor, what are your reflections on the journal's accomplishments, and what advice would you offer for its next 35 years and beyond?

A. When we started *Statistica Sinica*, the hope was simple but ambitious: to create a journal of international quality that would bring together Chinese statisticians everywhere while remaining fully open to the wider profession. Its success

belongs to many people—the editorial boards, authors, referees, staff, and especially the successive Chair Editors who maintained high standards. For the next 35 years, my advice would be to preserve that original spirit: rigorous, open-minded, and international. The journal should welcome new areas, including data science and AI, but never confuse novelty with lasting value. Good work still requires a clear question, sound methods, and a real contribution to knowledge or practice. Most importantly, *Statistica Sinica* should continue to give younger scholars a serious, respected place in the global statistical conversation.

And that seems to be as authentic as the AI-George can be, with the exception that while *Statistica Sinica* obviously has strong ties to Chinese statistical communities, George's vision was always to make it an international journal as broadly as possible. We still recall how joyful George was upon Peter Hall's acceptance of becoming a co-chair editor of *Statistica Sinica* back in 2008, since before that, all Chair Editors were of Chinese origin. Having served as co-chair editors of *Statistica Sinica* at various periods (2005–2008 for Xiao-Li, 2011–2014 for Qiwei, and 2014–2017 for Ruey), we all worked hard to support George's vision as AI-George summarized, and we surely look forward to the further enhancement of *Statistica Sinica* globally, in content, authorship, and readership.

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