ECNU Review of Education
2026, Vol. 9(2) 1–14

DOI: 10.1177/20965311241270189
journals.sagepub.com/home/roe

Dialogue With Simon Marginson on Expanding Horizons: Internationalizing Higher Education and Advancing Interdisciplinary Research

Dan Zhang (张丹)
East China Normal University

Simon Marginson
University of Oxford

Keywords

Governance, interdisciplinary research, internationalization of higher education

Date received: 21 February 2024; revised: 9 June 2024; accepted: 15 June 2024

Dan: Given the context of higher education internationalization and interdisciplinary development, you are an Oxford scholar who places significant emphasis on globalization, international research, and interdisciplinary studies throughout your academic career. Your scholarly work demonstrates a deep and extensive contribution to the field of higher education internationalization. Could you maybe provide a brief introduction about yourself, your background, research background, and the fundamental theories that guide your research interests?

Simon: My name is Simon Marginson and I am a professor of higher education at the University of Oxford in the UK. I consider myself fortunate because Oxford is one of the 10 or

Corresponding author:
Dan Zhang, Institute of International and Comparative Education, Faculty of Education, East China Normal University, 3663 North Zhongshan Road, Shanghai 200062, China.
Email: dzhang@kcx.ecnu.edu.cn

20 universities that are widely known, like Tsinghua or Harvard. However, I haven't always been in this position. This is not my entire career. In my late 20s and 30s, I worked in policy organizations focused on education, dealing with national policy issues. I worked for four different organizations over a span of 13 years. I transitioned to academia in my early 40s at the University of Melbourne, where I completed my PhD at the age of 45, which was relatively late. Based on my doctoral work and the books that were published from it, I was then offered academic opportunities and positions. I became a professor about three years after completing my doctorate at Monash University, specializing in higher education with a particular focus on international and global aspects. While my doctoral work focused on national policy, my later work shifted to international and global aspects of higher education. I later returned to the University of Melbourne, where I continued working in similar areas. Eventually, at the age of 62, I moved to the UK and began working at University College London (UCL). After a few months, we received a large research grant for a center that I led called the Centre for Global Higher Education. The center is still active and is now in its eighth and final year, with me still serving as its director. I'm looking forward to the end of my directorship in 10 and a half months, as it means no more meetings or letters to write. During this period of directing the Centre for Global Higher Education, I moved to the University of Oxford. I had a good five-year period at UCL and have now spent another five years at Oxford. In both places, I have primarily taught higher education and international and global aspects, but I have done more teaching at Oxford than at any previous stage in my career. We have a large and active higher education studies group at the master's level, and I am supervising 11 doctoral students as well.

Ecology of knowledge: Broadening the meaning of internationalization of higher education

Dan: It's indeed a complex question, but could you elaborate on the fundamental theories that have influenced your work?

Simon: Well, it's a multifaceted question. I began with a foundation in political economy and gradually shifted toward sociological and cultural studies perspectives to some extent. However, I've always had a strong inclination toward theory. Even in my 20s, when I was a student, I had a deep interest in political theory, political philosophy, and political studies. These have always formed the backbone of my work, providing valuable insights and perspectives. I have had some knowledge about China and have

long been actively interested in political organization and political thought, including Marxism and Leninism. In terms of theoretical influences, Marx and political economy have played a role, but so has Foucault, particularly in relation to social theory and sociology. More recently, Margaret Archer's work on the theory of agency, specifically her concept of "morphogenetic agency," has been significant. However, I don't align myself with a particular theoretical camp. I have developed my own theories and have made modest contributions to the theory of higher education. For example, the "Glonacal" idea, which suggests that individuals are simultaneously aware and active at the global, national, and local levels, employing an agency heuristic. Additionally, the concept of self-formation, which emphasizes that students are engaged in the process of shaping themselves, resonates with my work in international and higher education. It has some similarities to the idea of Confucian cultivation. When constructing my own ideas and interpretations, I draw from various theories by different scholars at different times. I don't adhere to a single theory or follow a specific school of thought. I prefer to be eclectic and broad-minded in my approach.

Dan: I understand that you have focused a lot on the internationalization of higher education. However, there has been a rise in discussions about anti-globalization, particularly in the aftermath of the pandemic. What are your thoughts on this?

Simon: This is indeed a complex issue with various dimensions. Personally, I have a normative preference for globalization. To me, globalization represents the process of coming together at a global level, fostering convergence and integration. It does not necessarily imply political, economic, or cultural unification because even when we come together, diversity persists. Different starting points and diverse perspectives are still relevant and valuable. In fact, we learn a great deal from engaging with other traditions and individuals from different backgrounds, gaining new insights that we wouldn't have otherwise considered. In the global environment, it is essential to encourage and manage diversity within a common space, promoting harmony and enabling diversity to flourish. This vision of globalization is centered on the world rather than any particular country, including China. It resonates with me, and I strive to advocate for this way of thinking. I consider it to be one of my contributions.

However, not everyone shares this perspective. Some people perceive international movements of people, money, culture, and ideas as threatening. They may face economic competition from outside their country or locality, which poses a threat to their livelihoods. Additionally, there is pushback against globalization when people resist the

influx of new or different ideas, identities, and languages, fearing that they might overshadow their own space. This kind of reaction has gained traction in recent years. In the past, there was a period of technological and economic globalization predominantly led by the United States in the 1990s and 2000s. However, since then, there has been a shift, with the U.S. withdrawing from its role as a global leader and becoming more defensive. This shift was partly influenced by the rise of China, as the U.S. government and others saw China benefiting more from the open global environment. As a response, the U.S. began closing off its environment as a means to slow down China's rise. Although this was their intention, I don't believe it has been successful. Interestingly, China has experienced periods of both openness and closure throughout its history. For example, the Tang Dynasty was highly open to international influences at one point but later became more closed off. China has been very supportive of globalization in recent years and has even outlasted the U.S. as a proponent of openness.

Therefore, we find ourselves in a peculiar situation where the U.S. is to some extent retreating from globalization, even reversing economic globalization, while China continues to embrace and promote openness. However, in higher education, research, science, and knowledge exchange, there is still a considerable level of openness compared to other sectors. Nonetheless, there are some pressures on student mobility, such as graduate students in the U.S., and negative sentiments toward research collaboration between China and Western countries, mostly driven by the U.S. The notion of decoupling has become a rallying cry. So, there is some pressure on openness, and certain countries exhibit a tendency toward closure in political aspects. However, in higher education and knowledge exchange, we remain more open compared to most other sectors. The people I know are committed to maintaining these connections. Personally, as someone who has worked with China for many years, I see no reason to change what we are doing and believe in the importance of continuous learning and contribution.

The concept of the ecology of knowledge, as articulated by Santos, aims to incorporate indigenous and non-Western knowledge into the broader conversation. I believe it is important to acknowledge and include the knowledge produced by advanced countries like China and Germany in their national languages, rather than solely focusing on English. With advancements in translation and interpretation software, we have the means to facilitate multilingual conversations in most disciplines.

Dan: I agree. Creating a multilingual conversation would allow us to incorporate non-Western, non-Eastern, and indigenous knowledge, broadening our understanding and perspectives.

Simon: Exactly. Currently, there is a heavy emphasis on English, with about 95 to 98 percent of the Web of Science and leading journals being in English. By exclusively prioritizing English, we are narrowing the knowledge we can gain from each other and excluding the majority of the world's knowledge, including valuable perspectives. For example, in East Asian and Nordic cultures, the view of the role of the state differs from that of the Western tradition. In the East Asian civilization tradition, which has roots in Chinese culture but also extends to Japan and Korea, the state and society are intertwined. The state's responsibilities encompass the entire society, and the health of society and the state are seen as interconnected. In the Nordic world, particularly in Scandinavia and Finland, the state and society are seen as one, with the state having a broad responsibility for societal well-being. In contrast, the Anglophone tradition, and to a lesser extent the rest of Western Europe (excluding Scandinavia), views the state as separate from other spheres such as the market or the family. This tradition often sees the state as an intruder or a potential threat, resulting in political dynamics focusing on pushing back against state intervention. These different approaches to the state fundamentally shape societies and cannot be understood solely through the lens of one tradition.

These differences also have implications for higher education. In the United States, for instance, universities are often imagined as part of civil society, even though they may be affected by state regulations. In China, higher education institutions are within the state apparatus but still operate with considerable autonomy. While there is a relationship between universities and the state in China, it doesn't exhibit the same dualism seen in the Anglophone world. These variations influence how higher education is structured and function in different contexts. Therefore, geopolitical conflicts and policy shifts affect universities and academic traditions in different ways based on these underlying differences. Understanding these nuances is crucial when considering the impact of such shifts on higher education and knowledge exchange.

Dan: In our culture, there seems to be a learning culture where even local authorities express their respect for learning from others. However, there appears to be a significant gap between policymaking and policy management in practice. When considering the methodology of nationalism and globalizing, it seems that senior professors in the Chinese academic community tend to adopt a philosophical approach that serves local interests. As higher education becomes more globalized and internationalized, we need to build bridges to solve our problems and engage in international discourses.

Simon: Regarding the tension between national methods and international discourses in the Chinese educational field, I believe there are two forms of diversity and otherness at

play. The first is interdisciplinary and epistemic diversity within a single language, where different perspectives and ways of understanding knowledge coexist. The second is cross-cultural and multicultural diversity between traditions and perspectives, which often transcends disciplinary boundaries. For example, an orthodox American scholar may share the common view that market exchange is beneficial and that the world operates as a trading environment largely separate from the state, while in China, the state has a significant influence, and economics is just one part of life, not the sole explanation for everything. Additionally, there are variations in the importance and structure of families. Bringing these perspectives together can be highly valuable, although it is challenging. It requires commitment, organization, resources, and overcoming geopolitical obstacles.

It is indeed a challenging task to combine these two forms of diversity, whether it's bringing people from different countries or different disciplines together. It requires significant effort and can make collaboration more complex. However, with frequent communication and interaction, people can get to know each other better across these divides, whether they are epistemic or rooted in national or cultural differences. Patience with oneself and others is crucial in this process.

In the context of China, the argument for epistemic collaboration across disciplines is apparent. If there is a common problem to be solved, it is unlikely that a single discipline alone can provide the solution. This recognition is relatively straightforward. Moreover, China has gained a great deal from engaging with the West. However, the reciprocal engagement from the West with China has been limited, and that is a loss for the West. Despite the tensions and complexities involved, China has managed to retain its distinct identity throughout this process of engagement. Not engaging with external ideas would mean missing out on significant learning opportunities. China has the autonomy to choose which external ideas to adopt or reject, similar to how scholars in the West select ideas from the Western tradition. Some scholars have a deep knowledge of obscure English-language thinkers on the philosophy of education from decades ago and find value in their work. Similarly, China has its own rich traditions that continue to be relevant and useful, such as the period of the sages and neo-Confucianism.

In my exploration of structural and agency issues, I have come across English-language scholarship on China, and I've found neo-Confucian scholars who are on par with Western scholars in terms of sophistication and insight, and in some cases even surpass them. It is true that valuable work can come from different periods, not just the present. China has the ability to pick and choose from different traditions and ideas, which is an advantageous position. Just as the West should engage with

non-Western traditions, it would be a shame if China ceased its own learning. This learning process is not limited to English-language scholarship but extends to other languages such as French and Spanish. Every culture has its own interesting and valuable contributions. Finland, for example, has many intelligent individuals, but their language, Finnish, can be challenging for outsiders to access and learn. India, with its diverse scholarly traditions and deep historical roots, could potentially produce significant non-Western and non-Chinese work, similar to China's ancient traditions.

Dan: Translation science is a fascinating field that involves moving knowledge across boundaries, particularly in areas such as medicine where dialogue, bridge-building, and communication are crucial. The extent to which we can learn from translation practice depends on the specific context and field we're considering. Mathematics, for instance, has become almost universal in its language, although there may be non-conventional mathematics practiced in certain indigenous communities that differ from mainstream approaches.

Simon: When it comes to comparing Chinese and English, I have been exploring the public good role of universities, and it becomes evident that there are no perfect translations for many terms. Words related to "public," "social," "collective," "communal," and similar concepts have different nuances and approaches in each language. Engaging in discussions to uncover these differences and seeking near-equivalents in both languages can be incredibly fruitful. It is interesting to discover silent terms in one tradition that have no direct counterpart in the other, as well as instances where seemingly perfect translations are accompanied by different usage and contextualization. Engaging in this kind of translation work opens up new ideas and allows for fresh perspectives. Even if you have been writing about a specific topic for a long time, exploring it through different linguistic and cultural lenses can lead to a new understanding. It can be mentally refreshing and provide new terrain for thought. In my own experience, it allowed me to see neoliberalism and new public management in universities differently, providing an opportunity to rethink what I thought I already knew. One aspect I find particularly interesting in the Chinese discussion is the emphasis on relational issues. The importance of relationships between different individuals, as exemplified by the concept of "confusion pairs," is always at the forefront. In contrast, English tends to individualize and separate relationships from the self. Engaging in translation work and exploring different perspectives can make us more aware of certain aspects, such as the significance of relationships, and lead to a deeper understanding of our humanistic and interconnected nature.

Translation problems are quite different, and they can be really helpful, but it requires effort to work through them. When we learn foreign languages, we tend to compartmentalize

them, almost like interacting with different personas when using each language. However, comparing these languages is highly beneficial, although not everyone does it. Some people simply code-switch without integrating the languages. In my opinion, both code-switching and integration are valuable.

How Simon thinks about interdisciplinary research development in Chinese context

Dan: Nevertheless, the Chinese government's efforts in developing interdisciplinary research and promoting technology and science are commendable. It is through such endeavors that China can continue to advance and contribute to global knowledge and innovation. In reference to your previous paper, it is true that social sciences and humanities in China may not have the same level of visibility in global disciplinary networks as the physical sciences. Hence, they do not share the same level of quality of protections. This difference in visibility should be addressed to ensure a more balanced representation and recognition of China's intellectual contributions across disciplines.

So, how can we promote international collaborations in the field of Chinese education, and how can international scholars engage in in-depth collaboration or comparative research in global ways, typically addressing similar questions? I find some topics, such as the equity of migrant children in education or promoting interdisciplinary research, to be common concerns in Europe and the United States.

Simon: Let's explore a few of these questions regarding the epistemic organization and disciplinary boundaries between Chinese and Western approaches. In the West, knowledge is divided into separate compartments, with each discipline claiming to provide explanations for everything. For example, if you talk to an economist, especially an orthodox economist from the Chicago School of Economics or classical economists, they will argue that economic concepts can be applied to any social situation. Gary Becker, known for his work on human capital theory, even claimed that economic concepts could explain marriage and divorce entirely, reducing it to a market transaction where men trade their career accomplishments for women's attractiveness. Although sociologists believe that sociology can explain everything, and psychologists focus on individual psychology without much emphasis on group psychology, the tendency in China historically has been to acknowledge the diversity of scholars' views. During the Spring and Autumn and Warring States period, there was a famous example at the Jixia Academy

where an enlightened state brought together different schools of thought to engage in debates, discussions, and synthesizing diverse perspectives. This intellectual structure encouraged mixing, matching, and acknowledging differences, and fostering dialogue. The concept of the Dao, with its ability to be anything to anyone, played a significant role in this approach. As a result, disciplinary boundaries were not as rigid as they are in Western systems. It is important to note that these boundaries refer to fields rather than specific disciplines, as the Chinese intellectual tradition differs in this regard.

While Marxist-Leninism imposes a structured set of knowledge for governance, in the contemporary era, there is still potential for Chinese social sciences, as well as other scientific disciplines, to cross borders, blend ideas, and engage in interdisciplinary research. Studies comparing Chinese research in sociology, for example, to the work published in English-language journals indicate that the Western literature tends to be more theoretical and less problem-oriented, whereas Chinese research often focuses on practical societal issues, as one would expect from social science. Chinese social sciences also freely traverse boundaries between geography, political science, and other related fields, facilitating a problem-oriented approach across disciplines.

This suggests that China's social sciences, when conducted in Chinese, may be better equipped than Western social sciences in some ways. However, it is important to acknowledge that social sciences and humanities face challenges in both Western and Chinese contexts. While the emphasis on physical sciences and engineering disciplines has been pronounced in China due to funding priorities, the Western context also faces similar issues, albeit to a somewhat lesser extent. Nonetheless, social sciences in China potentially have a greater role to play, while recognizing that humanities pose unique difficulties. As a Western observer, I am naturally drawn to East Asian civilization, such as Zen Buddhism in Japan, and find aspects that differ from our own tradition fascinating. The arts and humanities in China have captured our attention, but it is crucial to remember that social organization, engineering, computing, and physics are also exceptional areas of focus in China's academic landscape.

To truly foster interdisciplinary research, it is crucial to create an environment that encourages open dialogue, critical thinking, and the exchange of ideas without fear of repercussion or limitation. This requires a shift in mindset, where the emphasis is placed on collaboration, exploration, and the pursuit of knowledge across disciplinary boundaries. You encourage them to approach the problem collaboratively and find innovative solutions from their respective disciplines. This approach allows for the integration of diverse perspectives and the potential for groundbreaking discoveries.

While conformism exists to some extent in academia globally, it is important to continue advocating for intellectual freedom and the ability to express oneself openly. This applies not only to discussions about governance but also to a wide range of topics. Allowing researchers, the freedom to express their opinions and engage in critical discourse can lead to a more vibrant academic community and facilitate innovative and impactful research. Ultimately, the goal should be to create an inclusive and supportive academic environment that values diverse perspectives, encourages interdisciplinary collaboration, and nurtures a culture of intellectual curiosity and freedom of expression.

What role does critical thinking play in the development of interdisciplinary studies?

Dan: Yeah, typically, I feel that when it comes to Oxford, it is also similar. They try to build up a very free and autonomous atmosphere for all the scholars to come and debate, even with quite critical thinking when they talk and discuss together.

Simon: I think people are critically minded. I mean, the students who come here, Chinese students, great, lots of agency, lots of criticism, and self-criticism, criticism in China, criticism of us, criticism of the world. Yeah, just like everyone else, they are really good at it and smart, you know, the ability to be critical. I mean, this notion in the West that Confucianism in some way inhibits thought, critical thought, is completely wrong. But I think that need to conform, need to be careful is definitely there, and at times, more there than before. I hope it loosens a bit because I think that helps a lot. We don't all have to talk all the time about governance. But I think it's good if we can express ourselves freely on everything without it being an issue. And I mean, to keep it in perspective, conformism is a problem everywhere in the academic world. I mean, people are more reluctant, more conservative to speak out, I think, in Japan than anywhere I know. And this is a place with academic freedom, and the American kind, and a political democracy of the American kind, kind of the way. But Japan, as a traditional society, runs, you don't speak out of turn. It's really hierarchical. I got the impression that young people who are pushing forward in China are noisier than they are in Japan, you know. You can get, and I can think of a few examples of people I've known, and inside China, you get people who are master students, doctoral students, young faculty who are really quite outspoken, although people get very nervous around, you know, appointment tenure time, just like in the U.S. Let

me say, I mean, if you're in the U.S., a good research university, you're on a six-year path to tenure if you're on the tenure track, and you've got a committee of five or six people who are monitoring your performance all the way through, and you've got to keep all of them on your side. I mean, unless you do incredibly well, you haven't got much autonomy. You've got to be really careful. If you do incredibly well, you can help. They can't stop you. Yeah, if you become a national leader in your field, they have to give you tenure eventually, although even then, they sometimes find ways of not doing it. Sometimes they prefer it if you do their work for them.

How to promote or develop interdisciplinary research?

Dan: Well, as you talk about governance, I realize that actually, during the recent years when I do my research focusing on interdisciplinary research, typically the government actually really wanted some policy devices on how to promote or develop this interdisciplinary research. How to do it? What do you think about it?

Simon: Yeah, I think that's a problem everywhere because disciplines are separated, and people think in terms of one set of precepts or assumptions. And getting to relax and listen to each other and learn from each other is hard. Yeah, I think it's a general problem anything that's cross-disciplines. But, I mean, I think the problem is partly alleviated when you say, you don't ask people to bring their separated data together. You basically say, "We have a common problem. How should we address it?" You say you start on a disciplinary basis. You don't allow them to be solely driven by the pathway they're already on; you ask them to collectively create a new pathway. I think that's the key—you have to go right back to the beginning of the problem. If you do that, there's a better chance you'll be open to each other throughout the process. However, if each person has already developed their own approach to the issue and brings that, which is alien and different to everyone else, there may not be much room for change and adaptation. But if you can evolve together, it'll work better. It's actually very challenging—you need a compelling problem that people really have to solve. It has to be a motivating problem, and while not easily solved, there are solvable local problems to consider. Providing something that people haven't already done makes them more open to each other.

Dan: We find that it's very challenging for different disciplines because they have their own languages, which refer to terminologies and conceptual frameworks. When people

come together, even if they are discussing the same phenomenon or nature of the problems, their usage of different terms may hinder their understanding. However, I believe that's where the learning occurs, so it's worth working on. Methods are probably the key—it's a way of thinking or a way of gaining perspective, a valuable notion. We all have our specific methods, but that's where we can bridge the gap.

Simon: For example, if you're a psychologist and I'm an economist, and we address the problem of how we organize a group of people, hearing your perspective and approach might make me reconsider my worldview and adjust it to accommodate your insights as an economist. It's through discussing these perspectives that we learn. Methods serve as a way to summarize our perspectives, but often they come with underlying assumptions. In economics, for instance, the assumption of scarcity of resources is taken for granted, even though it's not universally applicable. Economists expect others to think in the same way, but they don't always explicitly state, "This is my summary of the issue—does anyone else have a different perspective?" When you encounter alternative viewpoints, such as the possibility of win-win situations instead of win-lose scenarios, it changes your outlook. Exchanging methods, perspectives, and assumptions is crucial to learning. I firmly believe that the interdisciplinary question is fundamental because we don't learn by repeating the same things with slight variations. We're proficient at reproducing ourselves, our teachers, and our colleagues. Instead, we learn by seeing things through another person's eyes, seeing things differently, and engaging with the others.

Then we combine the new perspective with our current perspective, and often, from that combination, a new third thing emerges. That's where creativity comes in. Creativity usually arises when an old concept is reconsidered in a new context or when two previously separate ideas are brought together, opening up the possibility for a third idea to emerge. Interdisciplinary cooperation provides a significant opportunity to engage with others and learn from them. It's not just about diversity in terms of individual rights and inclusivity, although those aspects are important for justice. It's also about how we learn and grow by engaging with and learning from others. This is a concept I usually discuss in my final lecture of the higher education studies program, emphasizing the value of learning through difference and the richness of a classroom filled with individuals from diverse backgrounds. By the end of the program, I hope that students have started to learn from each other.

Dan: Do you have any suggestions or advice regarding the evaluation and governance of educational fields in China?

Simon: There are several aspects to consider. In a conversation I had a few years ago, someone asked for my advice on Chinese higher education, specifically addressing the Ministry of Education. My response was to focus on strengthening second- and third-tier institutions, not solely emphasizing world-class universities. It is important to uplift provincial institutions and provide opportunities for students from various backgrounds. In my current research, I have an excellent student named Yushan Xie, who is conducting a doctoral thesis. She has chosen to study at second- and third-tier institutions, focusing on first-generation family students in provincial cities. These students may not be academically strong, but they are part of the higher education system, working toward earning their degrees. However, their future prospects remain uncertain. Considering this, we need to think about the broader implications of education beyond elite studies. While the mass education project in China has lifted the entire human race and created a significant middle class with vast opportunities, we must not overlook those who are not part of the intellectual or social elite. These students often face similar challenges. Therefore, it is crucial to find ways to enrich and empower their lives. This could be achieved through community service or career-based employment, offering them pathways they currently lack. Strengthening educational institutions and providing a more robust educational experience may also enhance student agency and confidence. One of the key findings from Yushan's study is that many students feel disengaged because they perceive their learning as lacking value and relevance. Hence, we must make higher education exciting and worthwhile, highlighting the transformative power of knowledge. While it may be intriguing to us, it might not captivate everyone else. Therefore, we need to find ways to make it work better for a broader audience.

Several countries/regions have made progress in addressing these challenges. Finland, for instance, excels in its universities of applied sciences, while Germany has also shown positive results in second- and third-tier institutions. Ultimately, providing opportunities rests upon the economies of the respective countries/regions. Hence, the first step is to strengthen middle-level institutions, second- and third-tier universities, and provide more robust pathways for these students. China possesses the necessary policy tools to address this issue, which may not be available to all European or American governments.

Dan: Thank you so much!

Declaration of conflicting interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The authors disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This study was supported by 2024 National Social Science Fund of China (Education General Project) titled: Research on Governance Model Reform and Practical Approaches to Promoting Interdisciplinary Research (BFA240079).

ORCID iD

Dan Zhang https://orcid.org/0000-0002-8244-3184