

MEMBER PROPOSAL

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Date: Thu, 27 Mar 2025 20:06:08 -0400

Member: Xiangjie Chen

E-mail: xichen@terpmail.umd.edu

Questions

1. Name of Proponent(s)*:

Xiangjie Chen

2. Country(ies)*:

United States

3. Title of Proposal*:

Enabling Climate Accountability in Science: Standardizing Carbon Evaluation for ISIE Conferences

4. * WHAT IS THE CENTRAL IDEA OF THE PROPOSAL?

This proposal seeks to develop and pilot a standardized, replicable approach for evaluating and reducing the carbon footprint of ISIE conferences. While ISIE is a globally recognized leader in sustainability science and industrial ecology, the Society has not yet taken meaningful internal steps to assess or mitigate the environmental impacts of its own operations—particularly its conferences, which are significant sources of emissions due to travel, accommodation, and event logistics. This internal contradiction weakens ISIE's credibility as a sustainability pioneer.

To address this gap, the proposed project will implement a real-time, participant-level carbon audit at the ISIE 2025 conference in Singapore. The results will inform the creation of a reusable carbon accounting toolkit, a comprehensive emissions assessment report, behavioral guidelines for reducing emissions at the source, and an academic article comparing emissions across disciplines and geographies. The project will also review credible carbon offset strategies tailored to academic events.

Two graduate students will be hired and mentored throughout the entire process. All outcomes will be made available to the Society to support long-term climate accountability. This proposal ultimately enables ISIE to operationalize its core mission and take a leadership role in making scholarly practices more aligned with climate commitments.

5. * WHAT IS THE BENEFIT TO THE SOCIETY AND MEMBERS?

This project enables ISIE to demonstrate climate leadership through measurable action. It provides the Society with a robust, transparent, and replicable evaluation framework to assess and reduce the carbon footprint of its conferences—helping to align ISIE’s operational practices with its long-standing mission in sustainability and systems thinking. Members will benefit directly from a validated carbon accounting toolkit, evidence-based behavior-change strategies, and planning guidance on emissions reduction for future events, including insights on venue selection, transportation, and catering policies.

The outcomes will also support strategic decision-making at the Society level by identifying emission hotspots and evaluating offsetting options tailored to academic contexts. Additionally, the project contributes to capacity-building by training and mentoring two graduate students in carbon accounting and sustainability engagement. By integrating values with practice, this project enhances ISIE’s credibility and positions the Society as a global exemplar of climate-responsible academic leadership.

6. * WHO WOULD GOVERN OR OPERATE THE PROPOSAL?

The project will be governed and executed by me, Xiangjie Chen, a Ph.D. candidate in Geographical Sciences at the University of Maryland. I have become an ISIE member since 2021 and have over seven years of research experience in sustainability science, specifically focusing on the environmental impacts of consumption systems. I also serve as a member of ISIE’s Student Chapter Board. I will lead all aspects of this project—from survey design and research assistant training to on-site data collection, carbon accounting, and final reporting.

Two graduate students will be recruited and mentored by me to assist with in-person data gathering during the ISIE 2025 conference in Singapore. I will personally participate in the entire field process. Academic support will be available through my core research networks (particularly Prof. Klaus Hubacek from the University of Groningen and Prof. Kuishuang Feng from the University of Maryland), ensuring smooth project operation.

7. * WHAT RESOURCES ARE AVAILABLE TO SUPPORT THE PROPOSAL (e.g. Administrative, Financial, personnel)

Resources include the applicant’s academic affiliation (University of Maryland), access to survey and analysis software (Qualtrics), and strong academic networks in China for recruitment and training graduate research assistants. The applicant will personally manage all logistics and provide analytical expertise. Due to geographic proximity, recruiting assistants from China enables cost-effective participation in the Singapore-based conference. The requested budget covers core costs such as travel, accommodation, meals, and small participation incentives. Should actual costs exceed ISIE’s funding, the applicant has committed to covering the excess using personal funds.

8. * IS THIS PROPOSAL DEFINED WITHIN A SINGLE ISIE SECTION OR ACROSS SECTIONS?

This is a cross-cutting proposal designed to benefit all ISIE sections and members. It offers a replicable framework and practical tools for reducing the environmental impacts of ISIE events. Its outcomes—toolkit, report, behavioral guidelines, and publication—are relevant to organizers, researchers, and participants from all domains of industrial ecology. It also contributes to the Society's overall strategic planning and operational sustainability.

9. IF ISIE MEMBER FOR <2 YEARS, PROVIDE NAME OF SUPPORTING ISIE BOARD MEMBER OR SECTION LEADER

Not applicable (Member since 2021)

10. EVIDENCE OF SUPPORT FOR THE PROPOSAL (FROM WITHIN OR ACROSS SECTIONS OR REGIONS)

This proposal is deeply rooted in the ISIE community and benefits from strong internal support. As a current Board Member of the ISIE Student Chapter, I have extensive experience in organizing Society events and building cross-sectional collaborations. This position has allowed me to develop a broad social network within ISIE, which will be essential for promoting participation, disseminating outcomes, and integrating the project with ongoing Society activities. I will be supported by two graduate students (Xin Huang and Yalin Chen) from the School of Economics and Trade at Hunan University, both of whom specialize in life cycle assessment (LCA) and environmental systems modeling. Their research skills and field availability will make it feasible to collect several hundred high-quality participant samples during the one-week ISIE 2025 conference. Additionally, my doctoral advisor, Professor Kuishuang Feng—an expert in carbon accounting and environmental input-output modeling—will provide technical and strategic guidance throughout the project. His involvement will help ensure analytical rigour and scientific impact. Together, this integrated team offers the necessary institutional, methodological, and community-based support to deliver a successful and widely relevant outcome for ISIE.

11. APPROXIMATE BUDGET IF APPLICABLE (Financial estimates and explanations)

The total estimated budget for this project is €5,500. Any expenses beyond ISIE's support ceiling (€5,000) will be covered by me personally. This includes: €3,000 in stipends for two research assistants (€1,500 per student), who will support the project from survey preparation through to final reporting. The assistants will be recruited from Chinese universities, where I have a strong research network. Their proximity to Singapore helps minimize travel costs and ensures availability for the full week of the

ISIE conference.

€500 for international airfare, assuming approximately €250 per student for round-trip flights from Changsha, China to Singapore.

€800 for accommodation, calculated at €60 per night per student for 7 nights. This estimate is based on mid-range hostel or university housing options in Singapore.

€700 for meals, budgeted at €50 per student per day for 7 days to cover food and local daily expenses during the conference period.

€500 for modest survey participation incentives (e.g., small gifts), which are important for encouraging engagement and ensuring high-quality data collection.

12. OTHER

This proposal reflects my long-standing commitment to aligning scientific values with operational practices. It responds to a growing call for climate accountability in academic research by offering ISIE a practical pathway to lead by example.

If you would like to know more about my background and qualifications, you are welcome to review my CV here:

<https://1drv.ms/b/s!Al0LhG9AsxPMjPtoKJyTckD9Nf1f0A?e=mGYEQr>.

I have also prepared a more detailed version of the full proposal, including methodology, timeline, and references. You can access it here:

<https://1drv.ms/b/s!Al0LhG9AsxPMjPtpflwx0VjVoyWjww?e=5M1HRR>.

I am happy to provide any further information if needed (xjchen@terpmail.umd.edu), and I sincerely thank the ISIE board for considering this initiative!