2022 NHERI Summer Institute
June 20-22, 2022
Technology Transfer Committee Activity Report

I. Participating members
II. Activities
III. Takeaways
IV. Recommendations
V. Frequently asked questions

I. TTC Membership at the Summer Institute

The 2022 NHEI Summer Institute was the first such event to include direct involvement of the NHERI Technology Transfer Committee. The committee was represented with five attendees at the conference, summarized below with associated hazard specialties.

- Kelly Cobeen, PE, SE (Wiss Janney Elstner Associates), Earthquake and Wind
- Graham Brasic, PE, SE (Jezerinac Group), Wind and Tsunami/Storm Surge
- Joseph Cibor, PE (Cibor Inc), Tsunami/Storm Surge and Geotech
- Michael Valley, PE, SE (Magnussen Klemencic Associates), Earthquake and Geotech
- Yazen Khasawneh, Ph.D, PE (University of Notre Dame), Geotech

It is the opinion of the attending TTC representatives that there is great value in continued involvement in future Summer Institutes. This event provides a platform for the committee to connect directly with researchers, market what the committee does, and advocate for proactive technology transfer in the proposal development process. Additionally, there is great value to the committee itself in networking with researchers and observing a simulated proposal development process to gain an understanding of how projects come together.

II. Activities at the Summer Institute

TTC activities during the summer institute include the following:

- General consulting with researchers at tables
- A formal presentation to introduce the TTC and what we do (and don't do) with Q&A session
- Develop responses to formal questions submitted by Summer Institute participants regarding the TTC (see attached for questions and TTC responses posted by Robin)
- Networking at social events
- Lunch session with TTC members available for discussions with researchers

III. Takeaways from the SI

The primary takeaways from this involvement are summarized below, along with a few recommendations that the TTC would like to propose for continued involvement in future Summer Institute conferences and, bigger picture, recommendations for incorporating technology transfer mechanisms into research projects.

1. Technology transfer was included in the mock proposals that were developed and presented at the Summer Institute, but it is the committee's understanding that this component is not mandatory for actual proposals, nor is this component considered when actual proposals are evaluated by the NCO. This consideration should be considered by the NCO as a formalized element to include in actual proposal evaluation. Discussions with researchers during the mock proposal process showed how an outlook of working backwards from implementation goals could help guide early decisions regarding the direction of research projects.

2. There is great value in illustrating examples of potential technology transfer mechanisms to conference participants, many of whom were early in their career and without a wealth of experience related to avenues for implementation of their research and/or unclear how it fits in to the process. A specific success story was highlighted during the formal TTC presentation which seemed to greatly help conference participants understand a potential avenue to transfer and how the process can play out.

3. That being said, the current technology transfer concepts/mechanisms are strongly aligned with building codes and standards/guidelines, but there are other mechanisms that may be more applicable to certain projects. There is seemingly an opportunity to extend beyond this typical mechanism, such as Design Safe or another mechanism/database that allows stakeholders/end users to seek out data/information more directly.

4. It is just as important to reinforce what the TTC is <u>not</u> and what we do <u>not</u> do as clarifying what we are and what we do. Many researchers are disconnected from the engineering community that is most often the end-user of their research results, and thus the role of the committee in the process can be unclear.
5.

IV. TTC Recommendations

1. If the technology transfer component is intended to continue to be considered in the mock proposal grading sheet, it would be advisable to have the TTC review and provide input on the scoring criteria.

2. The lunch session (where conference participants were encouraged to drop by the TTC table for discussions or consultation regarding the committee and technology transfer) was not well attended. Perhaps 1-on-1 consultations could be beneficial to conference participants, similar to the equipment site consultations.

3. For the mock proposals, the TTC members were assigned randomly to the groups. The most value may be delivered by assigning TTC representatives to the groups after the mock proposals start to come together and assignment can be based on hazard/focus, allowing the mock proposal consultation to be a closer approximation of what a true TTC consultation may be.

4. It would be helpful to get short bios for the attendees.

V. Technology Transfer Frequently Asked Questions

1. What are the criteria that Technology Transfer Committee members use to decide if the research projects are ready for implementation? How often do they make a selection of successful projects?

There is not set criteria for implementation, but more so it is identifying transfer potential based on the nature of the research project and how it could be implemented in practice. This practical aspect is important - and not all projects will have transfer potential - but what we're looking for is results that would/could be meaningful to inform decisions by end-users such as code committees and, perhaps more importantly, should be considered by practitioners that design our built environment for resistance to natural hazards. We really are just the facilitators to get researchers (and their projects/results) on the radar of the decision makers.

Similarly for the question about how often selections are made, we rely on you to reach out to us. We are available any time to discuss technology transit at any stage of your project.

2. How does the tech transfer committee work? Can we reach out in the proposal development phase to define desired outcomes/parameters/data format? Can they inform on the specific data and results needed from a tech/code perspective to help shaping the research project with a code development goal in mind?

TTC does not “select” successful projects but may suggest (to researchers and codes/standards committees) that research is suitable for implementation in the near term. We rely on you to contact us. The TTC welcomes early contact to help researchers contact codes/standards committees to shape the research focus and data synthesis and presentation.

The tech transfer committee operates based on hazard specialty where projects are reviewed by the subject matter representative(s) within our committee for perceived transfer potential. For projects with identified transfer potential, a designated representative from our committee can be made available to the PI(s) for a discussion about transfer and implementation. This conversation is meant to get their thoughts on built-in transfer mechanisms of their project as well as potential additional transfer mechanisms for implementation/hand-off of results. The steps beyond this process are largely at the discretion of the PI. We encourage PI(s) to reach out to us for whatever involvement they deem appropriate. The value of earlier involvement is the ability to consider transfer mechanisms in the start of a project and potentially influence the goals of the project to specifically identify the practical aspects for implementation.

3. What are the steps needed to accomplish the research transfer to education? How can individual researchers create relevant data encompassing cross-functional access to ease collaboration and a successful academic transfer at a national level?

Technology transfer is related but distinct from the education initiatives addressed in the Broader Impacts portions of proposal in that technology transfer targets the end-user. This will occasionally but not frequently involve education. We are happy to discuss technology transfer to education but recognize that there is significant expertise on this topic already available in the NHERI program.

4. The Science Plan does an excellent job discussing the goals and research questions it hopes to fulfill, but how does NHERI support/assist in the implementation of new methods of design and construction of the built environment based on the findings of the research they support?

Others from NHERI will need to provide response to the broader questions of NHERI support and assistance. With the qualifier that we are only responding on behalf of the support/assistance provided by our group, the TTC supports/assists in this implementation by serving as a facilitator/liaison/matchmaker to the pertinent code development groups/committees to put researchers and their projects on the radar of such code development groups/committees.

5. How does the Technology Transfer Committee operate? Are members a part of the code committees? How does one get their research supported by the Technology Transfer Committee, or is that the committee's decision alone?

Many of the TTC members also participate in code/standards committees. The "support" of the TTC is not a formal approval or endorsement, but the TTC is glad to facilitate direct communication between researchers and codes/standards committees and will "go to bat" for work that has a strong possibility of improving practice.