BenchSys 2023

The 2nd ACM International Workshop on Advancements in Building Energy Benchmarking

Istanbul, Turkey in **Hybrid Mode**

15th &16th November 2023

Part of the 10th ACM BuildSys Conference

BenchSys is part of the 10th ACM BuildSys 2023 conference and will be held in Istanbul between the 15th and 16th of November 2023. The primary objective of this workshop is to explore advancements in building energy benchmarking and rating methods, while fostering connections among academic scholars, industry partners, and policy makers. The thematic areas of interest include building data acquisition technologies and processes, data sharing protocols and policies, benchmarking modeling methodologies, standardization and widespread adoption, strategy and collaboration, case studies, open-source platforms, and crowdsourcing.

General Co-Chairs

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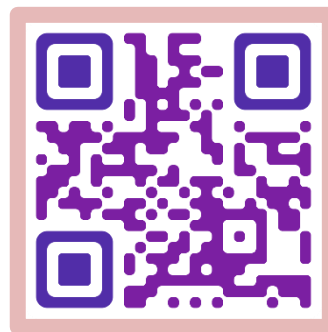
Pandarasamy Arjunan
Berkeley Education Alliance for Research in Singapore (BEARS) Singapore

Key dates

Paper Registration and Submission:
September 8, 2023
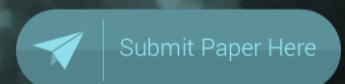
Notification of Acceptance:
September 22, 2023

Final Manuscript Due:
Camera-ready: Early October, 2023
(Exact date to be announced)

Scan this QR for more info.

Submit Paper Here

Call for Papers

The 2nd ACM International Workshop on Advancements in Building Energy Benchmarking Systems (BenchSys)

Co-located with ACM BuildSys 2023
November 15-16, 2023, Istanbul, Turkey

Building energy benchmarking is a proven energy management strategy that can positively quantify - and relatively quickly provide objective and reliable information on building energy use and the benefits of improvements. Energy benchmarking is a growing practice in many cities across the world as part of the energy disclosure policy. Many cities have already started to reap the benefits of energy benchmarking with up to 8% energy savings. However, there remains a gap in the widespread adaptation of benchmarking methodologies in terms of their scalability and standardization (data acquisition, analytics, validation, reporting, and automation). Several government organizations, industry practitioners, and researchers are working towards building a holistic and standardized energy benchmarking system.

The second ACM international workshop on "Advances in Building Energy Benchmarking" invites papers on the current developments in building energy benchmarking. Researchers and practitioners working on data acquisition technology and processes, data sharing protocols and policies, benchmarking modeling methodologies, standardization and widespread adoption, strategy and collaboration, case studies, open-source platforms and crowdsourcing are invited to participate. The workshop also aims to explore the existing challenges in data acquisition techniques in emerging economies. It hopes to develop a forum for though-provoking discussions and engagement fostering a conducive environment for urban innovation, especially in terms of maturing energy benchmarking methods, and their widespread adoption to mitigate climate-change by bringing together researchers, practitioners and think-tanks from science, industry and policy space to discuss related challenges and breakthroughs.

Topics of interest for the workshop include (but are not limited to) the following:
- Data acquisition technology and processes
- Building energy data sharing protocols and policies
- Building IEQ, IAQ, and Thermal Comfort related data analytics
- Data-driven modeling methodologies
- Top-down statistical analysis
- Simulation-based energy benchmarking
- ML, AI and analytical tools for enabling benchmarking
- Standardization, scalability and widespread adoption
- Urban-scale digitalization strategy and collaboration
- Case studies and field studies including user studies
- Open-source platforms and crowdsourcing

- Advancements in energy disclosure policies and limitations
- Novel (Smart) Methods: Demonstrated use of new and unconventional methods to measure energy use in facilities, e.g., GIS, Drones, Thermal Imaging
- Case studies: Practical applications either unconventional or frugal innovation in large-scale facilities (e.g. campuses, townships), and/or unconventional facilities (e.g. rural child care centre, worship) quantifying (e.g. low cost solutions) energy use that deems attention for scalability are particularly welcome.
- Creative aids, tools and methods for energy benchmarking inspired from social sciences or other disciplines are also welcome.

Research Track: High-quality **technical articles** are solicited, describing advances in methods, design, implementation, and validation of building energy benchmarking systems are welcome under this category. This may also include demonstrated evidences supporting policy changes towards net-zero energy.

Practitioners track: BenchSys'23 would like to facilitate a forum exchange of ideas, stimulate active engagement with larger stakeholder group outside academia and document critical perspectives. For instance, fresh perspectives employing data-driven decarbonization opportunities in unconventional forms/functions/use type of buildings and facilities such as worship facilities, public buildings such as rural child care centre facilities, secretariat buildings, transportation hubs, public schools, healthcare facilities etc. are specially welcome. Topics describing new public policies, programs, their digital implementation and expected socio-economic and environment impact around the workshop theme of 'advancements in building energy benchmarking' are solicited.

Henceforth, in addition to the previous edition, the BenchSys'23 opens a special call soliciting **critical position articles** (as short-papers or posters or documentaries or other creative forms) from practitioners, NGOs, policy makers, and think tanks (such as MoHUA and NIUA) who are championing and pushing the frontiers of both science, research, and policies both globally and regionally. This includes architects and urban planners working on large community transformation projects for large corporations or institutions or government agencies are welcome under this category. But scope of employment of digitalization catalyzing democratization leading to decarbonization in their design and/or implementation has to be articulated well.

The workshop solicits submissions under three categories:

Submission formats
1. **Technical papers:** Upto 4-6 pages (everything except references), reporting on novel research, to be presented at the workshop as an oral presentation.
2. **Short paper and Posters:** Submission from public administrators and practitioners can be made in posters, and short papers (2-4 pages) are welcome, in addition to regular technical research papers (4 to 6 pages).
3. **Documentary videos and other creative aids:** Under this category we solicit submission inspired from other disciplines outside CS such as art and social sciences that stimulate

engagement, and active interaction leading to urban innovation. Authors submitting under this category have to clearly structure articulating their ideas and approach in a single page or a poster, indicating – the relevance to workshop audience, how does it stimulate critical analysis & reflection among workshop participants, the originality, the creativity, and lastly, how would they like to present them in a hybrid mode. These creative submissions will also go through peer review as other submissions. However, these mayn't be indexed or published in workshop proceedings, but will be archived in BenchSys workshop portal.

Important dates:
Paper Registration and Submission: 28th September 2023
Notification of Acceptance: 22nd September 2023
Final Manuscript Due: Early October 2023

Workshop website: https://benchsys.github.io/2023/
Contact/Enquires: benchsys.workshop@gmail.com
Submissions portal: https://benchsys23.hotcrp.com/