



## TC 4.7 DDM Subcommittee

8-9 pm EDT

Chair: Amanda Smith, amanda.d.smith@gmail.com

Passcode: 2FWkph

# Call to Order & Introductions [5 min]

- Neal Kruis, Committee Chair
- Hyojin Kim, Secretary
- Brian Kastl, Committee Program Chair
- Jeannie Kim, Committee Webmaster
- John Pruett, Committee Handbook Chair
- Tim McDowell, Committee Research Chair
- Joel Neymark, Committee Standards Chair
- Ron Judkoff, Multi-scale Building Modeling Subcommittee Chair
- Amanda Smith, Data-driven Modeling Subcommittee Chair
- Brian Ball, Simulation and Component Models Subcommittee Chair

## Research

[DDM Agenda](#) from 2022 Annual Conference

Previous [Research Topics](#):

- [Develop WS for RTAR 1921 Enhancing Whole Building Calibrated Simulation Using Indoor Environmental Data](#)
  - [requested information from Hyojin and Jeff]
- In Discussion previously
  - Ron Judkoff - ASHRAE Standard 140 for DDM
  - Jeff Haberl - 8 items

Previously assigned items:

- PTAR for Building Energy Data Driven Modeling Toolkit
  - Clayton unable to budget time to the development of this PTAR

## Ongoing Research Projects

- None

## Draft RTARs

- None

## Program

### Program Submissions

- None

## Program Ideas (last time)

- Seminar on combining DDM and Physics-Based Modeling
  - Liping W. w/ Nick Long and possibly David Blum
- Seminar on breaking down data silos between IEEE & ASHRAE researchers, inspired by Farhad's comment above
  - Ralph and Farhad, Nick to be cc'd
- ML-based methods for building performance simulation.
  - Liping, Ralph, Nick/Anthony or other NREL researcher
  - 2023 summer targeted

## Subcommittee management

Succession planning:

- Chair position open as early as Summer 2023
- New Vice-Chair position for the subcommittee

## New Research Topics

(last time)

- Previously in discussion
  - ASHRAE Standard 140 for DDM, Ron Judkoff
    - 6/22 update: Need for method to test calibration--his prior work provides a framework. Wants to move forward, include test cases
      - Joel N. working with him
      - Juan Carlos B. willing to help
  - Automatic Calibration of multiple buildings / ensemble methods, Jeff Haberl
    - 6/22: Survey results were disseminated on Basecamp. Not the final version--will be revised, but worth checking out. Can be used to guide future efforts.
  - Metadata classification, Anthony Fontanini
    - 6/22 update (Clayton Miller): Have discussed the idea with other groups but not much progress to report. Wants to move forward - consider relationship to Brick, Haystack. Data, funding would help move forward. Liping W. will help connect Clayton with relevant DOE PI.
  - Can the Inverse Modeling Toolkit be used for Data Mining, Jeff Haberl
    - 6/22 update: This is dependent on the updating of IMT (was 1763-WS above). Will be wrapped into the tool redo.
  - Connecting data driven models with physics based models, Liping Wang
    - 6/22 update: May be worth doing as a program first to establish research status and gap. Program idea for winter conference. Depending on results, may write up RTAR. Suggestion to reach out to Boptest. Archived in research spreadsheet. Will see what comes out of seminar and check back in.

- New research ideas
  - Inverse tools for daylighting, Jeff Haberl.
    - His lab has found inverse tools do a pretty good job predicting annual performance of windows, etc. (v. Radiance). May require starting with building a library from accurate model. Ron points out there is a similar situation w/ CFD. No clear research development scope for this yet.
  - Interval data processing, Jeff Haberl.
    - ASHRAE could produce a toolkit for this, including standard methods for processing missing data. Some Python libraries, OpenEE meter out there have similar functionality.
      - Farhad Omar: IEEE task force is looking at similar questions on building data for grid services. Discussion indicated interest from several on the call in collaborating with IEEE researchers. Farhad will reach out.
    - Jeff will put ideas down on interval data processing and follow up with those interested.

## Attendance:

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## Upcoming Meetings

- June 24-28, 2023 – Tampa, FL
- Jan. 20-24, 2024 – Chicago, IL

## Appendix A: Resources

- ASHRAE's Research Proposal Process:
  - <https://www.ashrae.org/file%20library/technical%20resources/research/ashrae-research-flowchart-r6.pdf>
- 4.7 Committee Home Page:
  - <http://tc0407.ashraetcs.org/>
- 4.7 BaseCamp Page:
  - <https://3.basecamp.com/3106353/projects/8174587>