



TC 4.7 Simulation and Component Models Subcommittee

7-8 PM ET

Chair: Brian Ball (brian.ball@nrel.gov)

https://3.basecamp.com/3106353/buckets/8174587/schedule_entries/5049130266

Call to Order & Introductions

- Neal Kruis, Committee Chair
- ???, Committee Vice-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

Ongoing Research Projects (5 min)

- **1661-RP**: Development and Validation of Dynamic Models for the Evaluation of Chilled-Water Systems Control Strategies in the ASHRAE Handbook.
 - Awaiting PMS vote. What are the Next steps? Tim McDowell to report

Work Statements

- None that i am aware of

Draft RTARs

- None that I am aware of

New Research Topics (8 items from spreadsheet) (5 min each)

- Assess and Implement Natural and Hybrid Ventilation Models in Whole-Building Energy Simulations - Phase 2 (was 1748-WS) (*champion: **Joe Huang***)
 - The RL requested responses to original RAC comments.
- Development of a Reference Building Information Model (BIM) for Daylighting Optimization (*champion: **Jeff Haberl***)
 - Had wrong champion in spreadsheet, Jeff Haberl will get this going again
- Follow-on to RP-1588 (WindowModeling): Address Future Work Recommendations (*champion: **Joe Huang***)
 - Ideas still going around but nothing actionable yet
- Update publication of HVAC 1/2 toolkits, and loads toolkit into a single publication (champion: **Ralph Muehleisen**)

- Will switch to PTAR
 - **Ralph is overloaded and Plans to Table, anyone want to champion?**
- Optimizing the use of reduced weather data sets in simulations (*champion: **Jason Glazer***)
 - Circulated with 4.2 and 4.7 in march, but not getting any traction.
- Automated Thermal Zoning (champion: **Jeff Haberl**)
 - Jeff's student has a publication and will work to convert to RTAR.
- Strategies for modeling flexibility during extreme weather events (Champion: **James McNeill**)
 - New idea, updates?
- Reducing runtime by using the GPU (champion: **Jeff Haberl**)
 - New idea, updates?

Program

Program Submissions

- Not aware of any current program submissions.

Program Ideas (5 min)

- 1661: Development and Validation of Dynamic Models for the Evaluation of Chilled-Water Systems Control Strategies in the ASHRAE Handbook. (Wangda)
 - Is this still of interest?
- Modernizations in Simulation Engines
 - Edwin willing to try again on this?
 - Chair: Edwin
 - Possible speakers: Lee, Liam Buckley? (IES), McDowell (TRNSYS), Kruis
- Advanced scripting interacting with simulation engines:
 - Chair: Edwin
 - Possible speakers: Edwin (EnergyPlus), Nick (FMUs / Modelica), Tim (TRNSYS)

Other Topics for Discussion (5 min)

- Action items are here:
<https://3.basecamp.com/3106353/buckets/8174587/todosets/1152573944>
- ?

Attendance:

- Neal Kruis
- Cary Faulkner, CU Boulder
- Ralph Muehleisen
- Jeannie Kim
- Nicholas Long, NREL
- Nader
- Brian Kastl, AAON
- Liping Wang, Univ Wyoming
- Erik Kolderup
- Tianzhen Hong
- Danniell Villa
- Tim McDowell
- Joel Neymark
- Aaron Boranian
- Chip Barnaby
- Joshua New
- Yilin Jiang, Univ of Oklahoma, Yilin.jiang@ou.edu
- Nathan Kegel, DLR Group, nkegel@dlrgroup.com
- Liam Buckley, IES Ltd.
- Troy Harvey, PassiveLogic, troy@passivelogic.com
- Hyojin Kim (Online)
- Brian Ball (Online)
- Jeff Haberl (Online)
- James Mcneill (Online)
- Joe Huang (Online)
- Ron Judkoff (Online)
- Mark Adams (Online)
- Edwin Lee (Online)

Upcoming Meetings

- Feb 4, 2023 - Atlanta, GA
- June 24, 2023 - Tampa, FL
- Jan 20, 2024 - Chicago, IL
- June 22, 2024 - Indianapolis, IN
- Feb 8, 2025 - Orlando, FL
- June 21, 2025 - Phoenix, AZ

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>