

**AMERICAN SOCIETY OF HEATING, REFRIGERATING, AND
 AIR CONDITIONING ENGINEERS, INC.**

1791 Tullie Circle, NE / Atlanta, GA 30329
 (404) 636-8400

TC/TG/TRG MINUTES COVER SHEET

(Minutes of all TC/TG/TRG Meetings are to be distributed to all persons listed below within 60 days following the meeting.)

| TC/TG/TRG NO.: | 4.10 | TC/TG/TRG TITLE: | INDOOR ENVIRONMENTAL MODELING | | |
|-------------------------------|---------------|------------------|--------------------------------------|----------------------|-----------------------|
| DATE OF MEETING: | Jan. 29, 2007 | LOCATION: | Dallas, TX | | |
| DATE ISSUED: | Feb. 5, 2007 | RECORDED BY: | W. Stuart Dols | | |
| VOTING MEMBERS | TERM | | PRESENT | SUB-COMMITTEE CHAIRS | |
| | O n | Off | | | |
| Dols, William (Stuart), Chair | 05 | 07 | ✓ | Vice Chair | Khalifa, Hussein (Ez) |
| Lin, Chao-Hsin, Secretary | 05 | 07 | ✓ | Membership | Bennett, Jamie |
| James Bennett | 04 | 08 | ✓ | Programs | Van Gilder, James |
| Banks, David | 05 | 09 | ✗ | Research | Srebric, Jelena |
| Hosni, Mohammad (Mo) | 06 | 10 | ✓ | Standards | Ensor, David |
| Nielsen, Peter (Intl.) | 04 | 08 | ✓ | Web Page | Dols, W. Stuart |
| Novoselac, Atila | 06 | 10 | ✓ | Secretary | Lin, Chao-Hsin |
| Philips, Duncan | 05 | 09 | ✓ | Handbook | Banks, David |
| Sanchez, Greg | 05 | 09 | ✗ | Honors and Awards | Horstman, Ray |
| VanGilder, James | 06 | 10 | ✓ | | |
| Zhai, Zhiqiang (John) | 04 | 08 | ✓ | | |
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Technical Committee 4.10 – Indoor Environmental Modeling
 These minutes are a **DRAFT** until voted upon by the committee.

| CORRESPONDING MEMBERS | | PRESENT | CORRESPONDING MEMBERS | | PRESENT |
|--------------------------|--|---------|--------------------------|--|---------|
| Anderson, Ren | | | Lebbin, Paul | | |
| Arens, Edward | | | Levin, Hal | | |
| Armstrong, Peter | | | Melikov, Arsen | | |
| Axley, James | | | Murakami, Shuzo | | |
| Baker, AJ | | | Musser, Amy | | |
| Barakat, Sherif | | | Novoselac, Atila | | |
| Barles, Pierre | | | | | |
| Beausoleil-Morrison, Ian | | | Offermann, Francis | | |
| Becker, Bryan | | | Olesen, Bjarne | | |
| Berkoe, Jonathan | | | Pei, Hsien-Sheng | | |
| Blackmore, Byron | | | | | |
| Carter, John | | | Rahai, Hamid | | |
| Chen, Qingyan | | ✓ | Rimmer, Julian | | ✓ |
| Christianson, Leslie | | | Rivers, Richard | | |
| Clark, Daniel R. | | | Roberts, Jack | | |
| Colliver, Donald | | | Rogers, Lisa | | |
| Emmerich, Steven | | | Sawachi, Takao | | |
| Fanger, P. Ole | | | Schwarz, Walt | | ✓ |
| Farrington, Franklin | | | Sestak, George | | |
| Gadgil, Ashok | | | Shaw, Chia-Yu | | |
| Gordon, Elliott | | | Sohn, Chang | | |
| Grimsrud, David | | | Sinclair, Ray | | |
| Grot, Richard | | | Srebric, Jelena | | |
| Haghighat, Fariborz | | | Teichman, Kevin | | |
| Hall, John | | | Tompkins, Dean | | |
| Hensen, Jan | | | Tronville, Paolo | | ✓ |
| Hernandez, Mark | | | VonKempski, Diotima | | ✓ |
| Hirnikel, Dan | | | Walton, George | | |
| Horstman, Ray | | ✓ | Willman, Alexander | | |
| Hosni, Mohammad | | | Yang, Xudong (Don) | | ✓ |
| Int-Hout, Daniel | | | Zhai, John | | |
| Jones, Gordon | | | Zhang, Jianshun (Jensen) | | |
| Kang, Kai | | ✓ | Zhang, Wei | | |
| Kato, Shinsuke | | | | | |
| Kelso, Richard | | | | | |
| Kim, Man-Hoe | | | | | |
| Knappmiller, Kevin | | | | | |
| Krafthefer, Brian | | | | | |

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| ADDITIONAL ATTENDANCE | | | |
|-------------------------------|------------------------------------|-----------------|-------------|
| Shengwei Wang | | Sheryll Jerg | |
| Al Pucino | | Yuanhui Zhang | Add CM 2007 |
| Iain Macdonald | Add CM 2007 | Hiroshi Yoshino | |
| Cheng-Xian (Charlie) Lin | Add CM 2007 | Joe Huang | TC 4.7 |
| Rick Couvillion | | Hywel Davies | CIBSE |
| Xinlei Wang | Add CM 2007 | | |
| Seok Youn Kang | | | |
| Donghyun Rim | | | |
| Jianbo Jincy | | | |
| | | | |
| Society Liaisons, etc. | | PRESENT | |
| LeViseur, Suzanne | TAC Section Head | ✓ | |
| DeBullet, Julian | Prof. Devt. Committee | | |
| Henderson, Hugh | Research Liaison | ✓ | |
| Reeves, George | Standards Liaison | | |
| Hosni, Mo | Program Liaison | | |
| Wray, Craig | TAC Chairman | | |
| Ferguson, Kimball | Special Publications Liaison | | |
| Ramspeck, Claire | Staff Liaison (Standards) | | |
| Gulledge, Charles E. | TEGA Liaison | | |
| Vaughn, Michael | Staff Liaison (Research) | | |
| Vaughn, Michael | Staff Liaison (Tech. Services) | | |
| Conway, Mark | Handbook Liason 2005 Chap 34 Fund. | | |

Call to Order

Meeting called to order at 2:25 p.m. to allow time for PES 1271 to finish their meeting.

Welcome and introductions

Roll Call

9 voting members were present (including one international member), 2 voting members were not present. Quorum established 9 of 10.

Approve Minutes

held in Quebec City were reviewed. Minutes were approved [9-0-0-9 (For–Against–Abstain–Total Voting Members present)].

Announcements:

- Newly formed TRG 4.SBGM (Tech Resource Group) – Sustainable Building Guidance and Metrics
 - Formed under Directive 1 of the recently developed Society Strategic Plan
 - Technical Resource Groups (TRGs) are similar to TCs except that their responsibilities are limited to preparing, reviewing, or revising technical material. They do not have responsibilities for programs or research.
- New Research Advisory Panel (RAP) being formed July 1, 2007 to revise Research Strategic Plan.
 - Contact RAC if you wish to participate.
- George B. Hightower Technical Achievement Award
 - Recognizes excellence in volunteer service in the area of Technical Committee, Technical Group, and Technical Research Group activities excluding research and standards.
 - It was not awarded this year. There were only four applicants, and the applications placed too much emphasis on the point system.
 - Suzanne LeVisuer
- GAME (Greening of ASHRAE Meetings & Expositions)
 - All are encouraged to donate \$11.00 to reduce emission footprint of Dallas meeting and generally act “green” by participating in hotel efforts (recycle, towel reuse, etc.) and using public transportation.
- IAQ Satellite Broadcast/Webcast
 - Indoor Environmental Design: Practical Solutions to Everyday Problems
 - April 18, 2007. Best of all it's FREE.
 - Registration begins March 15.
- TAC is requesting TCs comment on portion of the Master Format relevant to their TC.
 - Contact me if you want further details on this.

Membership: (Jamie Bennett)

- Rolled OFF July 1, 2006: Gemma Kerr, Ez Khalifa, Jelena Srebric, Paolo Tronville
Rolled ON July 1, 2006: Mo Hosni, Atila Novoselec, Jim VanGilder
- Rolling OFF July 1, 2007: Stuart Dols and Chao Lin
Rolling ON July 1, 2007: Ez Khalifa, Julian Rimmer, Walt Schwarz => 11 + 1(Int) total
- 8 new CM to be added which brings total membership to 113
- Add John Zhai as Int. (**AI** completed by Jamie Bennet 1/29/07)
- Frank Farrington of Boeing died of pancreatic cancer. The members of the TC express their condolences to those who new him. He will be removed from the roster (**AI** completed by Jamie Bennet 1/29/07).

Research: (Jelena Srebric)

- Research Subcommittee Report (see **attachment TC410_Dallas_Research_Jan2007.pdf**)
- Joe Huang of TC 4.7 addressed the committee regarding RTAR #1456 (see **attachment RTAR_1456.pdf**) that TC 4.7 developed. The RTAR was approved to be developed into a work statement. TC 4.7 would like TC 4.10 to cosponsor the project which currently focuses on evaluating existing natural ventilation models. (**AI** Atila Novoselac of TC 4.10 will attend TC 4.7's meeting tonight at 7:30). Atila and Dave Banks have been working on an RTAR for TC 4.10 related to CFD boundary conditions for natural ventilation. They will work with TC 4.7.

Technical Committee 4.10 – Indoor Environmental Modeling
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- Hywel Davies of CIBSE also addressed the committee indicating that they develop design guidance related to natural ventilation (among others) and that we should collaborate with them to leverage upon their efforts and experience in this area.
- Duncan Phillips indicated that TC 4.3 should also be involved as they are directly related to building ventilation. Duncan further indicated that perhaps a Task Group should be formed related to natural ventilation (**AI** reserve meeting time to discuss development).
- RESEARCH PLAN
 - PRIORITY 1: Modeling of Data Centers for ASHRAE Engineers (TC 9.9 cosponsor) – Jim VanGilder
 - PRIORITY 2: CFD Boundary Conditions for Natural Ventilation – Atila Novoselac & Dave Banks
 - MOTION: To approve research plan as presented including prioritization of RTARs
 VOTE: 8/0/1/9 CNV (chair not voting).
 - **AI** Letter ballots for revised work statements by Fall Tech Weekend.
 - **AI** email research packet to Chair for minutes.
- EXECUTIVE SESSION – convened after main committee meeting
 - PES 1271 – recommended a bidder and TC discussed and voted on it
 - PES 1321 – recommended a bidder and TC discussed and voted on it
 - **AI** forward PES Summary Reports to MORTS

Program: Jim Van Gilder

- Upcoming Program Themes
 - 2007 Annual in Long Beach
Naturally – Nobody Does it Better: Conserving Natural Resource Use In Buildings
 - 2008 Winter in New York City
Zero Energy Design: Reaching New Heights in Zero Energy Design
 - 2008 Annual in Salt Lake City
Benchmarking: The Current Standard of Care.
 - 2009 Winter in Chicago
Sustainable Urban Design
 - 2009 Annual Louisville
Optimal Air Quality Management.
- NY Program Submittal
 - NY will require advanced uploading of presentations (30 days) so they can be certified by NY Board of Engineers for PDHs.
 - Earlier submittals will receive higher scheduling priority!!
- New Registration Policy
 - Effective beginning with Long Beach meeting
 Trans Authors = full complimentary meeting registration
 Sem Presenters and Forum Moderators = one day complimentary for day of presentation
 Session Chairs = must purchase their own registration
 - MOTION: Chair email a motion to SH4 requesting the board to reverse the decision on registration for speakers. (**AI** completed 1/29/2007)
 VOTE: 8/0/1/9 CNV
- New schedule began in Quebec City as reflected in Dallas program schedule
 - Time slots reduced from 2 to 1 ½ hours
 - 90 minutes: 3 to 4 speakers
 - 60 minutes: 2 speakers and Forums
 - More than 4 speakers: submit two programs Part 1 and 2
- Future program schedule

Long Beach Summer 2007 (Papers due September 29, 2006; packages due February 9, 2007)

| Program Type | Title | Chair | Status/Actions |
|--------------|---|-------------|-----------------------|
| Transaction | Coupling Multizone And CFD Models For Predicting Airflow And Pollutant Transport In Buildings | Xudong Yang | 5 papers under review |

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|-------------|--|-----------------|---|
| Transaction | Applications of Multizone Airflow and Contaminant Transport Modeling Parts 1 and 2 | Stuart Dols | 6 papers under review |
| Seminar | Modeling and Measurements in Natural Ventilation | Duncan Phillips | -Get abstract from Duncan -Email blast |
| Seminar | Modeling Coupled Indoor/Outdoor Contaminant Transfer | Hamid Rahai | -Get abstract from Hamid -Email blast -Email authors from similar session in Anaheim -Yan will present |
| Seminar | Integration of Noise Calculations into CFD Modeling | Greg Sanchez | -Get abstract from Greg if still interested -Email blast -Julian might be interested |

New York Winter 2008 (Papers due April 6, 2007; packages due August 3, 2007)

| Program Type | Title | Chair | Status/Notes |
|--------------|---|---------------|--|
| Seminar | Modeling Museums and Performing Arts Centers | Walt Schwarz | -Get abstract from Walt -Email blast -Advertise in Insights and post on ASHRAE web site |
| Transaction | Modeling Thermal Comfort in the Indoor Environment | Julian Rimmer | -Julian may have a paper (would seek new chair) -Get abstract from Julian -Email blast -Advertise in Insights and post on ASHRAE web site |
| Seminar | Air and Contaminant Flow in the Personal Microenvironment | John Zhai | -Get abstract from John -Email blast -Advertise in Insights and post on ASHRAE web site |
| Transaction | Material Emissions/Adsorption and IAQ | Jim VanGilder | -Xudong Yang has a paper and may find other authors -Email Gemma – have papers? abstract? -Email blast -Advertise in Insights and post on ASHRAE web site |

Salt Lake City Summer 2008 (Papers due September 28, 2007; packages due February 8, 2008)

| Program Type | Title | Chair | Status/Notes |
|--------------|---|---------------|--|
| Transaction | Modeling Thermal Radiation in the Indoor Environment | Jim VanGilder | -Proposed by Greg Sanchez -Email Greg about current interest and possibility of combining with similar New York Transaction |
| Transaction | Air and Contaminant Flow in the Personal Microenvironment | Ez Khalifa | -Email Ez about chairing -Advertise after Long Beach Meeting |
| Transaction | Contaminant Transport Modeling | John Zhai | -Jamie Bennett may have paper -Advertise after Long Beach Meeting |
| Transaction | Modeling Data Centers | Jim VanGilder | -Jim may have paper (would |

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|--|--|--|--|
| | | | seek new chair) -Advertise after Long Beach Meeting |
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Handbook: Stuart Dols for Dave Banks

- Working to develop our chapter as a wiki site.
- **AI** Julian Rimmer’s company can accommodate the wiki on their web site if need be

Standards: n/a

Web Site: Stuart Dols

- ASHRAE is in the middle of revamping their web site.
- TC web server crashed last week and is still down
- Link from www.ashraetcs.org is labeled incorrectly as “Indoor Environmental Monitoring” instead of Modeling.

Relevant Activities

New Business

MOTION to **adjourn** passed unanimously at 4:15 pm