

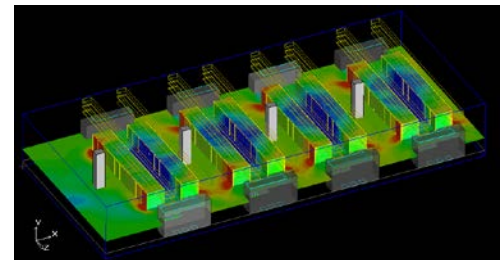
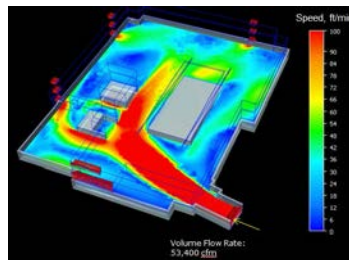
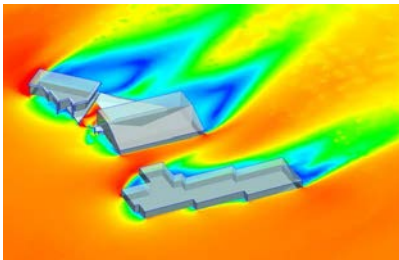


Willamette Valley Section of the Oregon ASHRAE Chapter
Presents:

Dinner Meeting and Presentation
Tuesday, June 11th, 2013

Computational Fluid Dynamics Modeling & Zonal Modeling Practices in AE/MEP/Fire Protection Industries

Computational Fluid Dynamics (CFD) analysis is the problem solving process of fluid flow and heat transfer phenomena that are governed by the fundamental laws of physics. As a result of CFD analysis, detailed information for velocity, pressure, temperature, and chemical species concentration in any given point within the space is acquired as a whole. This technique has widely been applied to various engineering applications including automobile and aircraft design, and recently HVAC/IAQ, fire protection industry is starting to utilize CFD techniques rigorously for better design, design optimization, and validation of systems.



Meeting Schedule:

June 11, 2013 - Meet at Agate Alley Laboratory, 2645 Willamette St., Eugene, OR. 97405

5:30 – 6:30pm No-host Social hour (Cash Bar)

6:30 – 8:00pm Dinner & Presentation (Buffet Style)

Presented by: Heejin J. Park, Ph.D., P.E.

Heejin J. Park has been leading Computational Fluid Dynamics (CFD)/R&D division at Flonomix, Inc. located in Portland, Oregon. He has extensively applied computational airflow simulation techniques to various HVAC/IAQ applications, fire protection analysis, and toxic chemical spreading simulation for last 20 years. He also has researched on advanced HVAC systems including thermal displacement ventilation and adapted computational simulation as a tool to verify the effectiveness of displacement ventilation system. He published numerous technical papers and has been frequently invited for presentation of his work at technical conferences/meetings in his fields. He holds a bachelor degree from Seoul National University and a master degree from Korean Advanced Institute of Science & Technology (KAIST) and a Ph.D. from University of Michigan (Ann Arbor) in mechanical engineering. He is a registered professional engineer in Minnesota and an active member of ASHRAE.

RSVP (w/ selections from next page) by Wednesday, June 5th to: Ben Wallace 541-232-2576
benw@oregonairreps.com)

\$30.00/person payable by check or cash-only to ASHRAE (**NO CREDIT CARD SERVICE**)



Willamette Valley Section of the Oregon ASHRAE Chapter Presents:

When you send your RSVP, please indicate which of the following categories are most interesting to you. The speaker will tailor his presentation to our group's interests:

Following are categories for CFD Analysis:

1. Fire/Smoke progress for performance-based approach designs (FDS: Fire Dynamic Simulator)
2. Data centers for cooling effectiveness evaluations
3. Air handling units for temperature stratification and moisture carryover issues
4. Air flow around building for stack exhaust re-entering a building and wind effect issues
5. Underground parking structure for CO accumulation concerns
6. Swimming pool for condensation on glass windows and air draft issues
7. Natural ventilation for verification of natural ventilation systems
8. Public centers (i.e. auditoriums, museums) for thermal comfort and draft issues
9. Kitchen Hood for contaminant hazard concerns
10. Problem solving: a variety of cases
11. LEED related CFD study
12. Other thermo-flow related issues including legally disputed cases (as a supporting role for forensic investigation)

Following are categories for zonal or multi-zonal modeling approaches:

13. Fire/Smoke progress for performance-based approach designs (CFAST: two zone model)
14. Shaft (elevators or stairwells) pressurization modeling
15. Chemical spreading in a building with many compartments
16. Contaminant smearing into a building from outside
17. Air-flow interaction in a large building for IAQ assessment
18. Any other macroscopic thermal flow analysis