

DAFTAR PUSTAKA

- [1] N. Kapasia *et al.*, “Impact of lockdown on learning status of undergraduate and postgraduate students during COVID-19 pandemic in West Bengal, India,” *Children and Youth Services Review*, vol. 116, p. 105194, Sep. 2020, doi: 10.1016/j.childyouth.2020.105194.
- [2] P. Engzell, A. Frey, and M. D. Verhagen, “Learning loss due to school closures during the COVID-19 pandemic,” *Proc. Natl. Acad. Sci. U.S.A.*, vol. 118, no. 17, p. e2022376118, Apr. 2021, doi: 10.1073/pnas.2022376118.
- [3] H. P. Oswin *et al.*, “The Dynamics of SARS-CoV-2 Infectivity with Changes in Aerosol Microenvironment,” *Infectious Diseases (except HIV/AIDS)*, preprint, Jan. 2022. doi: 10.1101/2022.01.08.22268944.
- [4] ASHRAE, “ANSI/ASHRAE 62.1-2019 Ventilation for Acceptable Indoor Air Quality.”
https://ashrae.iwrapper.com/ASHRAE_PREVIEW_ONLY_STANDARDS/STD_62.1_2019 (accessed Jun. 25, 2022).
- [5] M. J. Finnegan, C. A. Pickering, and P. S. Burge, “The sick building syndrome: prevalence studies,” *BMJ*, vol. 289, no. 6458, pp. 1573–1575, Dec. 1984, doi: 10.1136/bmj.289.6458.1573.
- [6] M. Hamdy, A. Hasan, and K. Siren, “A multi-stage optimization method for cost-optimal and nearly-zero-energy building solutions in line with the EPBD-recast 2010,” *Energy and Buildings*, vol. 56, pp. 189–203, Jan. 2013, doi: 10.1016/j.enbuild.2012.08.023.
- [7] A. Zivelonghi and M. Lai, “Mitigating Covid-19 aerosol infection risk in school buildings: the role of natural ventilation, classroom volume, occupancy,” *Health Systems and Quality Improvement*, preprint, Mar. 2021. doi: 10.1101/2021.03.23.21253503.
- [8] “Hierarchy of Controls | NIOSH | CDC,” Oct. 27, 2021.
<https://www.cdc.gov/niosh/topics/hierarchy/default.html> (accessed Jun. 22, 2022).
- [9] “CFD Simulation for Hospital Operating Rooms (ORs).”
<https://www.iesve.com/discoveries/view/13699/cfd-operating-room> (accessed Dec. 23, 2022).
- [10] V. Chanteloup and P.-S. Mirade, “Computational fluid dynamics (CFD) modelling of local mean age of air distribution in forced-ventilation food plants,” *Journal of Food Engineering*, vol. 90, no. 1, pp. 90–103, Jan. 2009, doi: 10.1016/j.jfoodeng.2008.06.014.
- [11] M. Caruso *et al.*, “Developing a Dynamic Control Algorithm to Improve Ventilation Efficiency in a University Conference Room,” in *2022 Systems and Information Engineering Design Symposium (SIEDS)*, Charlottesville, VA, USA, Apr. 2022, pp. 145–150. doi: 10.1109/SIEDS55548.2022.9799313.
- [12] Y. An, T. Xia, R. You, D. Lai, J. Liu, and C. Chen, “A reinforcement learning approach for control of window behavior to reduce indoor PM2.5 concentrations in naturally ventilated buildings,” *Building and Environment*, vol. 200, p. 107978, Aug. 2021, doi: 10.1016/j.buildenv.2021.107978.
- [13] H. Kim, T. Hong, and J. Kim, “Automatic ventilation control algorithm considering the indoor environmental quality factors and occupant ventilation



- behavior using a logistic regression model,” *Building and Environment*, vol. 153, pp. 46–59, Apr. 2019, doi: 10.1016/j.buildenv.2019.02.032.
- [14] H. Han, M. Hatta, and H. Rahman, “Smart Ventilation for Energy Conservation in Buildings,” *Evergreen*, vol. 6, no. 1, pp. 44–51, Mar. 2019, doi: 10.5109/2321005.
- [15] Z. Jing, “Study and Application of Intelligent Control Technology in Local Fan of Coal Mine,” *IOP Conf. Ser.: Mater. Sci. Eng.*, vol. 563, no. 4, p. 042072, Jul. 2019, doi: 10.1088/1757-899X/563/4/042072.
- [16] K. M. Smith and J. Kolarik, “Simulations of a novel demand-controlled room-based ventilation system for renovated apartments,” *IOP Conf. Ser.: Mater. Sci. Eng.*, vol. 609, no. 3, p. 032041, Sep. 2019, doi: 10.1088/1757-899X/609/3/032041.
- [17] M. J. Mendell *et al.*, “Improving the Health of Workers in Indoor Environments: Priority Research Needs for a National Occupational Research Agenda,” *Am J Public Health*, vol. 92, no. 9, pp. 1430–1440, Sep. 2002, doi: 10.2105/AJPH.92.9.1430.
- [18] J. Atkinson, Y. Chartier, C. L. Pessoa-Silva, P. Jensen, Y. Li, and W.-H. Seto, *Natural Ventilation for Infection Control in Health-Care Settings*. Canberra: World Health Organization, 2009. [Online]. Available: https://www.who.int/water_sanitation_health/publications/natural_ventilation.pdf
- [19] A. J. Aguilar, M. L. de la Hoz-Torres, N. Costa, P. Arezes, M. D. Martínez-Aires, and D. P. Ruiz, “Assessment of ventilation rates inside educational buildings in Southwestern Europe: Analysis of implemented strategic measures,” *Journal of Building Engineering*, vol. 51, p. 104204, Jul. 2022, doi: 10.1016/j.jobbe.2022.104204.
- [20] A. J. Aguilar, M. L. de la Hoz-Torres, M. D. Martínez-Aires, and D. P. Ruiz, “Monitoring and Assessment of Indoor Environmental Conditions after the Implementation of COVID-19-Based Ventilation Strategies in an Educational Building in Southern Spain,” *Sensors*, vol. 21, no. 21, p. 7223, Oct. 2021, doi: 10.3390/s21217223.
- [21] M. L. de la Hoz-Torres, A. J. Aguilar, D. P. Ruiz, and M. D. Martínez-Aires, “Analysis of Impact of Natural Ventilation Strategies in Ventilation Rates and Indoor Environmental Acoustics Using Sensor Measurement Data in Educational Buildings,” *Sensors*, vol. 21, no. 18, p. 6122, Sep. 2021, doi: 10.3390/s21186122.
- [22] S. Park, Y. Choi, D. Song, and E. K. Kim, “Natural ventilation strategy and related issues to prevent coronavirus disease 2019 (COVID-19) airborne transmission in a school building,” *Science of The Total Environment*, vol. 789, p. 147764, Oct. 2021, doi: 10.1016/j.scitotenv.2021.147764.
- [23] E. S. Wijaya, “Natural Ventilation Optimization Study in Mechanically Ventilated Studio Apartment Room in Surabaya,” *Journal of Applied Science and Engineering*, vol. 25, no. 1, pp. 141–149, Jul. 2021, doi: 10.6180/jase.202202_25(1).0014.
- [24] World Health Organization, *Roadmap to improve and ensure good indoor ventilation in the context of COVID-19*. Geneva: World Health Organization,



2021. Accessed: Jan. 09, 2022. [Online]. Available: <https://apps.who.int/iris/handle/10665/339857>
- [25] J. G. Allen, J. Spengler, E. Jones, and J. Cedeno-Laurent, “5-step guide to checking ventilation rates in classrooms.” Harvard T.H. Chan School of Public Health, Oct. 2020. Accessed: Jun. 14, 2022. [Online]. Available: <https://schools.forhealth.org/ventilation-guide/>
- [26] C. C. Federspiel, “Air-Change Effectiveness: Theory and Calculation Methods,” *Indoor Air*, vol. 9, no. 1, pp. 47–56, Mar. 1999, doi: 10.1111/j.1600-0668.1999.t01-3-00008.x.
- [27] World Health Organization, “Natural ventilation for infection control in health care settings,” 2009, Accessed: Jun. 06, 2022. [Online]. Available: <https://apps.who.int/iris/handle/10665/44167>
- [28] A. Bhatia, “HVAC - Natural Ventilation Principle.” Continuing Education and Development, Inc. Accessed: Jun. 23, 2022. [Online]. Available: <https://www.cedengineering.com/userfiles/HVAC%20-%20Natural%20Ventilation%20Principles%20R1.pdf>
- [29] P. Heiselberg, E. Bjørn, and P. V. Nielsen, “Impact of Open Windows on Room Air Flow and Thermal Comfort,” *International Journal of Ventilation*, vol. 1, no. 2, pp. 91–100, Oct. 2002, doi: 10.1080/14733315.2002.11683625.
- [30] O. US EPA, “Introduction to Indoor Air Quality,” Aug. 14, 2014. <https://www.epa.gov/indoor-air-quality-iaq/introduction-indoor-air-quality> (accessed Jan. 03, 2023).
- [31] O. US EPA, “Improving Indoor Air Quality,” Sep. 03, 2014. <https://www.epa.gov/indoor-air-quality-iaq/improving-indoor-air-quality> (accessed Jan. 06, 2023).
- [32] P. D. Bates, S. N. Lane, and R. I. Ferguson, Eds., *Computational Fluid Dynamics: Applications in Environmental Hydraulics*. Chichester, UK: John Wiley & Sons, Ltd, 2005. doi: 10.1002/0470015195.
- [33] N. S. Nise, *Control systems engineering*, 6th ed. Hoboken, NJ: Wiley, 2011.
- [34] “Interface for ApacheSim.” https://help.iesve.com/ve2018/interface_for_apachesim.htm (accessed Nov. 14, 2022).
- [35] “Boundary conditions.” https://help.iesve.com/ve2018/boundary_conditions.htm?ms=HQABCAAAA AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAHCAgBAQQ&q=Ym91bmRhcngY29uZGl0aW9u&st=Mg%3D%3D&sct=NTk5&mw=MjQw (accessed Nov. 14, 2022).
- [36] “Importing Boundary Conditions from VistaPro Results.” https://help.iesve.com/ve2018/importing_boundary_conditions_from_vistapro_results.htm?ms=HwABCAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA AAAAAAAAAHAggIAQEEA%3D%3D&q=Ym91bmRhcngY29uZGl0aW9u&st=Mg%3D%3D&sct=NjU5&mw=MjQw (accessed Nov. 14, 2022).
- [37] S. H. Rhee, “Unstructured Grid Based Reynolds-Averaged Navier-Stokes Method for Liquid Tank Sloshing,” *Journal of Fluids Engineering*, vol. 127, no. 3, pp. 572–582, May 2005, doi: 10.1115/1.1906267.



- [38] “Spesifikasi - FV-25RUN5 Ventilating Fan - Panasonic.” <https://www.panasonic.com/id/consumer/home-appliances/fans-air-purifiers/ventilating-fan/fv-25run5.specs.html> (accessed Nov. 23, 2022).
- [39] “CFD: MicroFlo User Guide”, [Online]. Available: <https://www.iesve.com/downloads/help/CFD/MicroFlo.pdf>
- [40] “Difference Between Equinox And Solstice - Equinox vs Solstice,” *BYJUS*. <https://byjus.com/physics/difference-between-equinox-and-solstice/> (accessed Nov. 17, 2022).
- [41] F. Lateef, “Hospital design for better infection control,” *J Emerg Trauma Shock*, vol. 2, no. 3, p. 175, 2009, doi: 10.4103/0974-2700.55329.
- [42] O. Fawwaz Alrebi, B. Obeidat, I. Atef Abdallah, E. F. Darwish, and A. Amhamed, “Airflow dynamics in an emergency department: A CFD simulation study to analyse COVID-19 dispersion,” *Alexandria Engineering Journal*, vol. 61, no. 5, pp. 3435–3445, May 2022, doi: 10.1016/j.aej.2021.08.062.

