

## References

1. Parsons K. Human Thermal Environments [Internet]. Second. The Effects of Hot, Moderate, and Cold Environments on Human Health, Comfort and Performance. London and New York: Taylor and Francis Group; 2003. 1–538 p. Available from: <http://onlinelibrary.wiley.com/doi/10.1002/cbdv.200490137/abstract>
2. Lu Y, Song G, Li J. A Novel Approach for Fit Analysis of Thermal Protective Clothing Using Three-Dimensional Body Scanning. *Appl Ergon* [Internet]. 2014;45(6):1439–46. Available from: <http://dx.doi.org/10.1016/j.apergo.2014.04.007>
3. McCullough EA, Jones BW. A Comprehensive Data Base for Estimating Clothing Insulation. *ASHRAE Trans.* 1984; 2888(2888): 29.
4. Havenith G, Heus R, Lotens Wa. Resultant Clothing Insulation: A Function of Body Movement, Posture, Wind, Clothing Fit and Ensemble Thickness. *Ergonomics* [Internet]. 1990 Jan 1;33(1):67–84. Available from: <https://doi.org/10.1080/00140139008927094>
5. Chen YS, Fan J, Qian X, Zhang W. Effect of Garment Fit on Thermal Insulation and Evaporative Resistance. *Text Res J* [Internet]. 2004 Aug 1;74(8):742–8. Available from: <https://doi.org/10.1177/004051750407400814>.
6. Daanen HAM, Hatcher K, Havenith G. Determination of clothing microclimate volume. In: 10th International Conference on Environmental Ergonomics [Internet]. Fukuoka, Japan; 2002. Available from: [https://repository.lboro.ac.uk/articles/Determination\\_of\\_clothing\\_microclimate\\_volume/9339344](https://repository.lboro.ac.uk/articles/Determination_of_clothing_microclimate_volume/9339344).
7. Zhang Z, Li J. Volume of Air Gaps Under Clothing And Its Related Thermal Effects. *J Fiber Bioeng Informatics* [Internet]. 2011;4(2):137–44. Available from: [http://global-sci.org/intro/article\\_detail/jfbi/4910.html](http://global-sci.org/intro/article_detail/jfbi/4910.html).
8. Psikuta A, Frackiewicz-Kaczmarek J, Frydrych I, Rossi R. Quantitative Evaluation of Air Gap Thickness and Contact Area Between Body and Garment. *Text Res J.* 2012; 82(14): 1405–13.
9. Daanen HAM, Psikuta A. 10 - 3D body scanning. In: Nayak R, Padhye RBT-A in GM, editors. The Textile Institute Book Series [Internet]. United Kingdom: Woodhead Publishing; 2018. p. 237–52. Available from: <http://www.sciencedirect.com/science/article/pii/B9780081012116000100>.
10. Lee Y, Hong K, Hong SA. 3D Quantification of Microclimate Volume in Layered Clothing for the Prediction of Clothing Insulation. *Appl Ergon* 2007; 38(3): 349–55.
11. Frackiewicz-Kaczmarek J, Psikuta A, Bueno M. Effect of Garment Properties on Air Gap Thickness and the Contact Area Distribution. *Text Res J.* 2015; 85(18): 1907–18.
12. Mert E, Psikuta A, Arevalo M, Charbonnier C, Luible-Bär C, Bueno M-A, et al. Quantitative Validation of 3D Garment Simulation Software for Determination of Air Gap Thickness in Lower Body Garments Quantitative Validation of 3D Garment Simulation Software for Determination of Air Gap Thickness in Lower Body Garments. In: *AUTEX World Textile Conference 2017. Corfu, Greece.*
13. Awais M, Krzywinski S. Method Development for Modeling, Designing, and Digital Representation of Outdoor and Protective Clothing. In: *Majumdar A, Gupta D, Gupta S, editors. Functional Textiles and Clothing. Singapore: Springer Singapore; 2019. p. 205–18.*
14. Mert E, Psikuta A, Arévalo M, Charbonnier C, Luible-Bär C, Bueno M-A, et al. A Validation Methodology and Application of 3D Garment Simulation Software to Determine the Distribution of Air Layers in Garments During Walking. Measurement [Internet]. 2018;117:153–64. Available from: <http://www.sciencedirect.com/science/article/pii/S0263224117307510>.

15. Lotens WA, Havenith G. Calculation of Clothing Insulation and Vapour Resistance. *Ergonomics* [Internet]. 1991 Feb 1;34(2):233–54. Available from: <https://doi.org/10.1080/00140139108967309>.
16. Li Y, Holcombe BV. Mathematical Simulation of Heat and Moisture Transfer in a Human-Clothing-Environment System. *Text Res J* [Internet]. 1998 Jun 1;68(6):389–97. Available from: <https://doi.org/10.1177/004051759806800601>.
17. Fan J, Luo Z, Li Y. Heat and Moisture Transfer with Sorption and Condensation in Porous Clothing Assemblies and Numerical Simulation. *Int J Heat Mass Transf* [Internet]. 2000; 43(16): 2989–3000. Available from: <http://www.sciencedirect.com/science/article/pii/S0017931099002355>.
18. Berger X, Sari H. A New Dynamic Clothing Model. Part 1: Heat and Mass Transfers. *Int J Therm Sci* [Internet]. 2000; 39(6): 673–83. Available from: <http://www.sciencedirect.com/science/article/pii/S1290072980002116>.
19. Stolwijk JA, Nadel ER, Wenger CB, Roberts MF. Development and Application of a Mathematical Model of Human Thermoregulation. *Arch Sci Physiol* (Paris). 1973; 27(3): 303.
20. Fiala D, Lomas KJ, Stohrer M. A Computer Model of Human Thermoregulation for a Wide Range of Environmental Conditions: The Passive System. *J Appl Physiol* [Internet]. 1999 Nov 1;87(5):1957–72. Available from: <https://doi.org/10.1152/jappl.1999.87.5.1957>
21. Fiala D, Lomas KJ, Stohrer M. Computer Prediction of Human Thermoregulatory and Temperature Responses to a Wide Range of Environmental Conditions. *Int J Biometeorol* [Internet]. 2001; 45(3): 143–59. Available from: <http://search.ebscohost.com/login.aspx?direct=true&db=cmedm&AN=11594634&site=ehost-live>.
22. Tanabe S, Kobayashi K, Nakano J, Ozeki Y, Konishi M. Evaluation of Thermal Comfort Using Combined Multi-Node Thermoregulation (65MN) and Radiation Models and Computational Fluid Dynamics (CFD). *Energy Build* [Internet]. 2002; 34(6): 637–46. Available from: <http://www.sciencedirect.com/science/article/pii/S0378778802000142>.
23. Huizenga C, Hui Z, Arens E. A Model of Human Physiology and Comfort for Assessing Complex Thermal Environments. *Build Environ*. 2001; 36: 691–9.
24. Fanger P. *Thermal Comfort: Analysis and Applications in Environmental Engineering*. Danish Technical Press; 1970.
25. Fiala D, Lomas KJ, Stohrer M. First Principles Modeling of Thermal Sensation Responses in Steady-State and Transient Conditions. *ASHRAE Trans*. 2003; 109: 179.
26. Zhang H. *Human Thermal Sensation and Comfort in Transient and Non-Uniform Thermal Environments*. University of California, Berkley; 2003.
27. Fiala D, Havenith G, Bröde P, Kampmann B, Jendritzky G. UTCI-Fiala Multi-Node Model of Human Heat Transfer and Temperature Regulation. *Int J Biometeorol*. 2012; 56(3): 429–41.
28. Severens NMW, Lichtenbelt WD van M, Frijns AJH, Steenhoven AA Van, Mol BAJM de, Sessler DI. A Model to Predict Patient Temperature During Cardiac Surgery. *Phys Med Biol* [Internet]. 2007; 52(17): 5131–45. Available from: <http://dx.doi.org/10.1088/0031-9155/52/17/002>.
29. Psikuta A, Richards M, Fiala D. Single- and Multi-Sector Thermophysiological Human Simulators For Clothing Research. In: *7th International Thermal Manikin and Modelling Meeting. Coimbra*; 2008. p. 1–5.
30. Fiala D, Lomas KJ. Application of a Computer Model Predicting Human Thermal Responses to the Design of Sports Stadia. In: *CIBSE '99, Conference Proc. Harrogate, UK*; p. 492–9.
31. Yang T, Cropper PC, Cook MJ, Yousaf R, Fiala D. A New Simulation System to Predict Human-Environment Thermal Interactions in Naturally Ventilated Buildings. In:

- Proceedings of the 10th International Conference on Building Simulation* [Internet]. Beijing; 2007. p. 751–6. Available from: [https://dspace.lboro.ac.uk/dspace-jspui/bitstream/2134/5255/1/BS2007\\_paper424.pdf](https://dspace.lboro.ac.uk/dspace-jspui/bitstream/2134/5255/1/BS2007_paper424.pdf).
32. Awais M, Krzywinski S, Wölfling B-M, Classen E. Thermal Simulation of Close-Fitting Sportswear. vol. 13, *Energies*. 2020.
  33. Awais M, Krzywinski S, Wendt E. A Novel Modeling and Simulation Approach for the Prediction of Human Thermophysiological Comfort. *Text Res J* [Internet]. 2020 Sep 11;0040517520955227. Available from: <https://doi.org/10.1177/0040517520955227>.
  34. Theseus FE [Internet]. [cited 2017 Oct 3]. Available from: <http://www.theseus-fe.com/simulation-software/human-thermal-model>.
  35. Paulke S. Finite Element Based Implementation of Fiala's Thermal Manikin in Theseus-FE [Internet]. 2007 [cited 2017 Aug 3]. Available from: <http://www.theseus-fe.com/simulation-software/human-thermal-model>.
  36. Fiala D. Dynamic Simulation of Human Heat Transfer and Thermal Comfort (Thesis). *Sustain Dev*. 1998; 45(2001):1.
  37. Pennes HH. Analysis of Tissue and Arterial Blood Temperatures in the Resting Human Forearm. *J Appl Physiol*. 1948; 1: 5–34.
  38. Theseus-FE. Theory Manual 7.1.09. Munich, Germany; 2020.
  39. Pandolf K, Givoni B, Goldman R. Predicting Energy Expenditure with Loads While Standing or Walking Very Slowly. *J Appl Physiol*. 1977; 43(4): 577–81.
  40. Vitronic [Internet]. Available from: <https://www.vitronic.com/industrial-and-logistics-automation/sectors/3d-body-scanner.html>.
  41. 3D scanning, design and reverse engineering software from 3D Systems Geomagic [Internet]. [cited 2016 Sep 7]. Available from: <http://www.geomagic.com/en/>.
  42. GbR DKF. GRAFIS-Software [Internet]. [cited 2019 Aug 16]. Available from: [https://www.grafis.com/files/Downloads/Infomaterial/Prospekt V12\\_EN\\_web.pdf](https://www.grafis.com/files/Downloads/Infomaterial/Prospekt V12_EN_web.pdf).
  43. Lectra [Internet]. [cited 2017 Jun 10]. Available from: <http://www.lectra.com/en>.
  44. Incropera FP, DeWitt DP, Bergman TL, Lavine AS. Fundamentals of Heat and Mass Transfer [Internet]. SIXTH EDIT. US Patent 5,328,671. Chichester: John Willey & Sones; 2007. 997 p. Available from: <http://www.google.com/patents?hl=en&lr=&vid=USPAT5328671&id=rb8lAAAAEBAJ&oi=fnd&dq=Heat+and+Mass+Transfer&printsec=abstract%5Cnhttp://www.google.com/patents?hl=en&lr=&vid=USPAT5328671&id=rb8lAAAAEBAJ&oi=fnd&dq=Heat+and+mass+transfer&printsec=abstract%5Cnh>
  45. Mert E, Psikuta A, Bueno MA, Rossi RM. Effect of heterogenous and homogenous air gaps on dry heat loss through the garment. *Int J Biometeorol*. 2015;59(11):1701–10.