Khushwant Singh Chauhan
Internal PhD Candidate
Thermal Engineering
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Personal profile

Khushwant is a Ph.D. research scholar at the University of Twente, Netherlands, focusing on the development and testing of long duration high temperature thermochemical energy storage solutions for heat and power generation using waste heat and renewable energy to attend sustainability. His research interests include working on the energy-water nexus, like solar energy, thermal energy storage, thermal management, computational fluid dynamics (CFD), water desalination etc. Prior to joining his Ph.D. program, Khushwant worked with Dell Technologies as a CFD/Thermal Engineer for two and a half years. He earned his Master's degree in 2023 from the Indian Institute of Technology (IIT) Ropar, India, under the guidance of Dr. Himanshu Tyagi, focusing on server thermal management and the performance optimization of 1.5U over 1U servers. Additionally, he developed a thermal model for membrane distillation during his Master's tenure. Khushwant was also a recipient of the SURI program at Arizona State University, USA. He is well verse in Ansys Icepak, Fluent, Star-CCM+, FloTherm, COMSOL, MATLAB, SolidsWorks, SpaceClaim etc. In his free time, he enjoys playing sports, solving Rubik's cubes, exploring new places, and cooking.
For more information, please visit my personal homepage: Website

Employment

Ph.D. Researcher
Internal PhD Candidate
Thermal Engineering
University of Twente
1 Feb 2025 → present

CFD/Thermal Engineer
Dell
United States
1 Jul 2023 → 20 Jan 2025

Graduate Intern
Dell
United States
4 Jul 2022 → 15 Jun 2023

Summer Research Intern
Arizona State University
Tempe, United States
1 May 2022 → 30 Jul 2022

Research outputs

Numerically Optimized Thermal Modeling of Fluid Flow and Heat Transfer in Direct Contact Membrane Distillation
Chauhan, K. S., 31 Jul 2025.

Long duration and cutting-edge thermochemical heat storage and upgrading technology for heat and power applications
Chauhan, K. S., Mehrali, M., Jafari, D., Singh, A. K., Arabkoohsar, A., Schmidt, M., Linder, M., Hummelshøj, R. M., Weinberger, P., Pluta, J., Senise, I. R. D. A., Fedorov, S., Sybir, A. & Touloumtzidis, A., 2025, (Accepted/In press).

Applications of Solar Energy: Energy Storage, Cooling, and Water Desalination
Dwivedi, J., Chauhan, K. S., Beniwal, R., Kashyap, A. S. & Tyagi, H., 29 Nov 2024, *Brightening Tomorrow Together 2024: Proceedings of the Brightening Tomorrow Together 2024 Symposium and Industry Summit*. p. 35-52

Thermodynamic analysis of a hybrid novel solar powered humidification-dehumidification coupled with direct contact membrane distillation system
Chauhan, K. S., Beniwal, R. & Tyagi, H., Jan 2024, In: Energy conversion and management. 300, 117930.

Solar energy integration in direct contact membrane distillation for clean water production
Dwivedi, J., Chauhan, K. S. & Tyagi, H., 2024, *Proceedings 9th Thermal and Fluids Engineering Conference (TFEC): April, 21-24, 2024, Corvallis, OR, USA*. ASTFE, p. 783-792 10 p. (Proceedings Thermal and Fluids Engineering Conference; vol. 2024, no. 9).

Thermal modeling of fluid flow and heat transfer in direct contact membrane distillation
Chauhan, K. S. & Tyagi, H., 2023, In: Energy conversion and management. 291

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