

Sateesh Kumar Yadav

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Department of Mechanical Engineering,
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D.O.B.: May 04, 1990



Educational Qualification

Degree	University/Institute/Board	Year	CPI/Percentage
Ph.D. (<i>Mechanical Engineering</i>)	IIT Kanpur	2022 (thesis submitted)	8.76/10.0
M.Tech. (<i>Mechanical Engineering</i>)	IIT Kanpur	2013	6.50/10.0
B.Tech. (<i>Mechanical Engineering</i>)	UPTU Lucknow	2011	69.20%
HSC	UP Board	2007	66.40%
SSC	UP Board	2005	69.83%

Dissertation

Ph.D.:

- Title: *Numerical studies of hot and cold thermal energy storage using inorganic phase change material*
- Supervisor: **Dr. Arvind Kumar**

M.Tech.:

- Title: *Thickness and axial force during single point incremental forming: an experimental study*
- Supervisor: **Dr. N. Venkata Reddy & Dr. Sounak K. Choudhury**

Publications

Journals:

1. J.S. Kharbanda, **S.K. Yadav**, V. Soni, A. Kumar, Modeling of heat transfer and fluid flow in epsom salt ($\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$) dissociation for thermochemical energy storage, J. Energy Storage. 31 (2020) 101712. <https://doi.org/10.1016/j.est.2020.101712>.
2. A. Kumar, **S.K. Yadav**, A. Mahato, A. Kumar, On-demand intermittent ice slurry generation for subzero cold thermal energy storage: Numerical simulation and performance analysis, Appl. Therm. Eng. 161 (2019) 114081. <https://doi.org/10.1016/j.applthermaleng.2019.114081>.
3. **S.K. Yadav**, D. Ziyad, A. Kumar, Numerical investigation of isothermal and non-isothermal ice slurry flow in horizontal elliptical pipes, Int. J. Refrig. 97 (2019) 196–210. <https://doi.org/10.1016/j.ijrefrig.2018.10.013>.
4. A. Bansal, R. Lingam, **S.K. Yadav**, N.V. Reddy, Prediction of forming forces in single point incremental forming, J. Manuf. Process. 28 (2017) 486–493. <https://doi.org/10.1016/j.jmapro.2017.04.016>.
5. C. Alkan, D.K. Döğüşcü, A. Gottschalk, U. Ramamoorthi, A. Kumar, **S.K. Yadav**, A.S. Yadav, E. Adıgüzel, A. Altıntaş, Y. Damlıoğlu, A. Çetin, Polyvinyl Alcohol-salt Hydrate Mixtures as Passive

Book Chapters:

1. J.S. Kharbanda, **S.K. Yadav**, V. Soni, A. Kumar, Modeling of Thermochemical Kinetics in Salt Hydrates for Thermal Energy Storage, in: S. Singh, V. Ramadesigan (Eds.), Adv. Energy Res. Vol. 1, Springer Singapore, Singapore, 2020: pp. 331–343. https://doi.org/10.1007/978-981-15-2666-4_33.
2. R.K. Shukla, **S.K. Yadav**, M.H. Shete, A. Kumar, Numerical Modeling of Impact and Solidification of a Molten Alloy Droplet on a Substrate, in: Adv. Mater. Form. Join., 2015: pp. 307–322. https://doi.org/10.1007/978-81-322-2355-9_16.

Conference and Symposium:

- J.S. Kharbanda, **S.K. Yadav**, V. Soni, A. Kumar, Thermochemical kinetics in salt hydrates for thermal energy storage: A numerical study and simulation, 6th International Conference on Advances in Energy Research (ICAER 2017), December 12-14, 2017, Indian Institute of Technology, Bombay, Maharashtra, India
- A. Bansal, R. Lingam, **S.K. Yadav**, N.V. Reddy, Prediction of forming forces in single point incremental forming, 45th North American Manufacturing Research Conference (NAMRC 45), June 4-8, 2017, University of Southern California, Los Angeles, California, United States of America.
- **S.K. Yadav**, A. Kumar, Thermochemical dissociation reaction modelling of epsom salt ($\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$) for thermal energy storage, Innovative Thermal Energy Storage (INOTES) Materials Symposium and Workshop, March 27-28, 2017, Tokat, Turkey.
- A. Gottschalk, C. Alkan, A. Kumar, U. Ramamoorthi, V. Soni, **S.K. Yadav**, Numerical investigation of thermal energy storage in a brick using microencapsulated PMMA and n-Octadecane PCM, Innovative Thermal Energy Storage (INOTES) Materials Symposium and Workshop, March 27-28, 2017, Tokat, Turkey.
- **S.K. Yadav**, A.S. Yadav, A. Kumar, Numerical Study of Thermal Association in Salt Hydrates for Thermal Energy Storage, 6th International and 43rd National Conference on Fluid Mechanics and Fluid Power (FMFP 2016), December 15-17, 2016, Motilal Nehru National Institute of Technology, Allahabad, Uttar Pradesh, India.
- V. Soni, **S.K. Yadav**, A. Kumar, V.K. Jain, Numerical Study of Heat Storage Enhancement in Phase Change Material based Thermal Energy Storage Systems, 6th International and 43rd National Conference on Fluid Mechanics and Fluid Power (FMFP 2016), December 15-17, 2016, Motilal Nehru National Institute of Technology, Allahabad, Uttar Pradesh, India.
- C. Alkan, D.K. Döğüşcü, A. Gottschalk, U. Ramamoorthi, A. Kumar, **S.K. Yadav**, A.S. Yadav, E. Adıgüzel, A. Altıntaş, Y. Damlıoğlu, A. Çetin, Polyvinyl Alcohol-salt Hydrate Mixtures as Passive Thermal Energy Storage Systems, 4th International Conference on Solar Heating and Cooling for Buildings and Industry (SHC 2015), December 2-4, 2015, Istanbul, Turkey.
- A. Mahato, **S.K. Yadav**, A. Kumar, Modelling Unconstrained Melting of Phase Change Material in a Spherical Reservoir of a Thermal Energy Storage System, International Conference on Polygeneration (ICP 2015), February 18-20, 2015, Anna University, Chennai, Tamil Nadu, India.
- A. Mahato, **S.K. Yadav**, A. Kumar, Influence of Optimization Parameters on the Generation of Ice Slurry in an Ice Forming Unit of a HVAC&R System, International Conference on Polygeneration (ICP 2015), February 18-20, 2015, Anna University, Chennai, Tamil Nadu, India.
- **S.K. Yadav**, R.K. Shukla, A. Kumar, Prediction of mould filling pattern using different numerical models and its influence on solidification, 5th International and 41st National Conference on Fluid Mechanics and Fluid Power (FMFP 2014), December 12-14, 2014, Indian Institute of Technology, Kanpur, Uttar Pradesh, India.

- **S.K. Yadav**, R.K. Shukla, A. Kumar, A numerical study of mould filling in microcasting, 5th International & 26th All India Manufacturing Technology, Design and Research Conference (AIMTDR 2014), December 12-14, 2014, Indian Institute of Technology, Guwahati, Assam, India.
- R.K. Shukla, **S.K. Yadav**, M.H. Shete, A. Kumar, Numerical modelling of impact and solidification of a molten alloy droplet on a substrate, 5th International & 26th All India Manufacturing Technology, Design and Research Conference (AIMTDR 2014), December 12-14, 2014, Indian Institute of Technology, Guwahati, Assam, India.
- **S.K. Yadav**, R.K. Shukla, A. Kumar, Numerical modelling of solid spherical particle deposition on a roughened substrate during cold spraying, 6th Asian Thermal Spray Conference (ATSC 2014), November 24-26, 2014, International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI), Hyderabad, Telangana, India.

Achievements/Academic Honors/ Awards/ Fellowships

- Secured **99.21** percentile in GATE 2011.
- Awarded scholarship from Ministry of Human Resource and Development (MHRD), India for pursuing M.Tech. and PhD.

Professional Training

- Summer Training from National Thermal Power Corporation Limited (NTPC), Koldam, Bilaspur, Himachal Pradesh, India on Study on Hydro Machines of Koldam (From June 7th to July 4th 2010).

Workshops/ Trainings and Seminars/ Talks

- AICTE Training And Learning (ATAL) Academy Online FDP on “**Additive Manufacturing: Current Trends And Prospects Towards Developing AM Research**” at Indian Institute of Technology, Kanpur, India (August 22-26, 2021).
- AICTE Training And Learning (ATAL) Academy Online FDP on “**Energy Engineering**” at Indian Institute of Technology, Roorkee, India (November 23-27, 2020).
- AICTE Training And Learning (ATAL) Academy Online FDP on “**Sustainability Engineering**” at Indian Institute of Technology, Jammu, India (October 26-30, 2020).
- Webinar on “**Welding Based Additive Manufacturing Fundamentals and Challenges in India**” conducted by Department of Mechanical Engineering, Sri Ranganathar Institute of Engineering and Technology, Athipalayam, Coimbatore-64110 (October 15, 2020).
- QIP short term course on “**Computational Fluid Dynamics: Fundamental and Applications**” conducted by Department of Mechanical Engineering, Dr. B. R. Ambedkar National Institute of Technology, Jalandhar, Punjab, India (Sept 21-25, 2020).
- QIP short term course on “**Thermal Energy Storage for Effective Energy Management**” conducted by Department of Mechanical Engineering, Indian Institute of Technology, Kanpur, India (Feb 10-14, 2020).
- QIP short term course on “**Additive Manufacturing**” conducted by Department of Mechanical Engineering, Indian Institute of Technology, Kanpur, India (Feb 11-15, 2019).
- AICTE sponsored short term course on “**Additive Manufacturing**” held at Indian Institute of Technology, Kanpur, India (Feb 05-09, 2018).

Technical Skills

Programming Languages/Libraries: C, C++, Python, Fortran

Application/Software: ANSYS Fluent, OpenFOAM, Abaqus, COMSOL, Auto CAD, CATIA, Pro/E, Solidworks, Tecplot, Origin, LaTeX, MATLAB, HTML

Languages Known

- Conversant in English and Hindi

References

- 1. Dr. N. Venkata Reddy**
Professor,
Department of Mechanical & Aerospace Engineering,
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- 3. Dr. Sounak K. Choudhury**
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Declaration

I hereby declare that all the above information is true and correct to the best of my knowledge and belief.

Sateesh Kumar Yadav