Kannan Nandha Premnath

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1200 Larimer Street
Campus Box 112
PO Box 173364
Denver, CO 80217

Home Address

10551 Jaguar Glen
Lone Tree, CO 80124

Education

2004	PhD	Purdue University, West Lafayette, IN	Mechanical Engineering
2001	MS	Purdue University, West Lafayette, IN	Mechanical Engineering
1997	BE	Anna University, India	Mechanical Engineering

Professional Experience

2012 – Present	Assistant Professor, University of Colorado Denver Department of Mechanical Engineering
2009 – 2012	Visiting Assistant Professor, University of Wyoming, Laramie, WY Department of Mechanical Engineering
2009 – 2009 (Summer)	Visiting Researcher, City College of New York, New York, NY CUNY Energy Institute & Department of Chemical Engineering
2004 – 2009	Principal Investigator & Engineer, MetaHeuristics LLC, Santa Barbara,CA Research & Development
2004 – 2009	Visiting Researcher, University of California, Santa Barbara, CA Department of Chemical Engineering
2001 – 2004	Graduate Teaching Assistant, Purdue University, West Lafayette, IN Department of Mechanical Engineering
2001 – 2002	Lynn Fellow, Computing Research Institute (CRI), Purdue University Computational Science & Engineering (CS&E) Program
1999 – 2004	Graduate Research Assistant, Purdue University, West Lafayette, IN Department of Mechanical Engineering Advisor: John Abraham
1997 – 1999	Research Engineer, Larsen & Toubro Limited, Mumbai, India Research & Development

Academic Awards/Honors

2001 *Lynn Fellowship*
Interdisciplinary Award for Outstanding Doctoral Students, Computing

Research Institute, Purdue University, West Lafayette, IN

1997 *University Gold Medal*
First Rank among all students in Mechanical Engineering, College of Engineering Guindy, Anna University, India

1997 *Cartwright Memorial Endowment Prize*
First Rank in Mechanical Engineering, College of Engineering Guindy, Anna University, India

1997 *Ramanujan Centenary Gold Medal*
Overall Best Performance in all Mathematics exams among all students, College of Engineering Guindy, Anna University, India

1997 *First Indian Principal, College of Engineering, Nagaratnam Memorial Endowment Prize*
Highest grades among Civil, Mechanical and Electrical Engineering students in first to seventh semesters, College of Engineering Guindy, Anna University, India

1997 *Guindy Engineers 1962 Trust Endowment Prize*
Best Academic Performance, Co-curricular and Extra-curricular activities, Anna University, India

Peer Reviewed Publications, Exhibitions, Performances, etc.

Under Review

39. Adam S**, **Premnath KN**, "Numerical Investigation of the Cascaded Central Moment Lattice Boltzmann Method for Non-Newtonian Fluid Flows" Submitted to *Journal of Non-Newtonian Fluid Mechanics*. Under review.

38. Jebakumar AS**, **Premnath KN**, Magi V, Abraham J, "Fully-Resolved Direct Numerical Simulations of Particle Motion in a Turbulent Channel Flow with the Lattice-Boltzmann Method" Submitted to *Computers and Fluids*. Under revision.

2018

37. Hajabdollahi F**, **Premnath KN**, Welch SWJ, "Cascaded Lattice Boltzmann Method based on Central Moments for Axisymmetric Thermal Flows Including Swirling Effects" *International Journal of Heat and Mass Transfer* (2018) In Press, https://doi.org/10.1016/j.ijheatmasstransfer.2018.09.059.

36. Hajabdollahi F**, **Premnath KN**, "Symmetrized Operator Split Schemes for Force and Source Modeling in Cascaded Lattice Boltzmann Methods for Flow and Scalar Transport" *Physical Review E* (2018) 97: 063303.

35. Hajabdollahi F**, **Premnath KN**, "Galilean-Invariant Preconditioned Central-Moment Lattice Boltzmann Method without Cubic Velocity Errors for Efficient Steady Flow Simulations" *Physical Review E* (2018) 97: 053303.

34. Hajabdollahi F**, **Premnath KN**, "Central Moments-based Cascaded Lattice Boltzmann Method for Thermal Convective Flows in Three-Dimensions" *International Journal of Heat and Mass Transfer* (2018) 120: 838-850.

33. **Premnath KN**, Hajabdollahi F**, Welch SWJ, "Surfactant Effects on Interfacial Flow and Thermal Transport Processes during Phase Change in Film Boiling" *Physics of Fluids* (2018) 30: 042108.

32. Hajabdollahi F**, **Premnath KN**, Malepati S**, "Effect of the Magnetic Field on Direct Contact Melting Transport Processes during Rotation" *Applied Mathematical Modelling* (2018) 61: 421-442.

31. Elseid FM**, Welch SWJ, **Premnath KN**, "A Cascaded Lattice Boltzmann Model for Thermal Convective Flows with Local Heat Sources" *International Journal of Heat and Fluid Flow* (2018) 70: 279-298.

30. Hajabdollahi F**, **Premnath KN**, "Thermocapillary Convection due to Imposed Interfacial Heating in the Presence of Magnetic Field" *Journal of Engineering Mathematics* (2018) 108: 37-52.

2017

29. Hajabdollahi F**, **Premnath KN**, "Numerical Study of the Effect of Nanoparticles on Thermoeconomic Improvement of a Solar Flat Plate Collector" *Applied Thermal Engineering* (2017) 127: 390-401.

28. Hajabdollahi F**, **Premnath KN**, "Improving the Low Mach Number Steady State Convergence of the Cascaded Lattice Boltzmann Method by Preconditioning" *Computers and Mathematics with Applications* (2017) Available Online February 26. https://doi.org/10.1016/j.camwa.2016.12.034

2016

27. Ning Y**, **Premnath KN**, Patil DV, "Numerical Study of the Properties of the Central Moment Lattice Boltzmann Method" *International Journal for Numerical Methods in Fluids* (2016) 82: 59-90.

26. Jebakumar AS**, **Premnath KN**, Abraham J, "Lattice Boltzmann Method Simulations of Stokes Number Effects on Particle Trajectories in a Wall Bounded Flow" *Computers and Fluids* (2015) 124: 208-219.

2015

2014

25. Patil DV, **Premnath KN**, Banerjee S, "Multigrid Lattice Boltzmann Method for Accelerated Solution of Elliptic Equations" *Journal of Computational Physics* (2014) 265: 172-194.

24. Patil DV, **Premnath KN**, Desai D, Banerjee S, "Electrodeposition Modeling using Coupled Phase-Field and Lattice Boltzmann Approach" *International Journal of Modern Physics C* (2014) 25: 1340018.

2013

23. **Premnath KN**, Pattison MJ, Banerjee S, "Computation of Transitional Flow Past a Circular Cylinder using a Multiblock Lattice Boltzmann Method" *Fluid Dynamics Research* (2013) 45: 055510.

22. **Premnath KN**, Pattison MJ, Banerjee S, "An Investigation of the Lattice Boltzmann Method for Large Eddy Simulation of Complex Turbulent Separated Flow" *Journal of Fluids Engineering – Transactions of the ASME* (2013) 135: 051401.

2012

21. **Premnath KN**, Banerjee S, "Inertial Frame Independent Forcing for Discrete Velocity Boltzmann Equation: Implications for Filtered Turbulence Simulation" *Communications in Computational Physics* (2012) 12: 732-766.

20. Liu M**, Chen XP, **Premnath KN** "Comparative Study of the Large Eddy Simulations with the Lattice Boltzmann Method using the Wall-Adapting Local Eddy-Viscosity and Vreman Subgrid Scale Models" *Chinese Physics Letters* (2012) 29: 104706.

19. Soni K**, **Premnath KN**, "Effect of Magnetic Field on the Natural Convection from a Vertical Melting Substrate" *International Journal of Thermal Science* (2012) 53: 89.

2011

18. **Premnath KN**, Banerjee S, "On the Three-Dimensional Central Moment Lattice Boltzmann Method" *Journal of Statistical Physics* (2012) 143: 747.

2010

17. Burgess, NK**, **Premnath KN**, "Interaction of Kelvin Force and Transport Across a Melting Substrate in a Microgravity Environment" *Physical Review E* (2010) 82: 046303.

2009

16. **Premnath KN**, Banerjee S, "Incorporating Forcing Term in Cascaded Lattice Boltzmann Approach by Method of Central Moments" *Physical Review E* (2009) 80: 036702.

15. **Premnath KN**, Pattison MJ, Banerjee S, "Dynamic Subgrid Scale Modeling of Turbulent Flows using Lattice-Boltzmann Method" *Physica A* (2009) 388: 2640.

14. **Premnath KN**, Pattison MJ, Banerjee S, "Generalized Lattice Boltzmann Equation with Forcing Term for Computation of Wall-Bounded Turbulent Flows" *Physical Review E* (2009) 79: 033902.

13. Pattison, MJ, **Premnath KN**, Banerjee S, "Computation of Turbulent Flow and Secondary Motions in a Square Duct using a Forced Generalized Lattice Boltzmann Equation" *Physical Review E* (2009) 79: 034902.

12. **Premnath KN**, Pattison MJ, Banerjee S, "Large Eddy Simulation of Self-Sustained Flow Instabilities in Cavities using the Lattice Boltzmann Method" *AIAA Journal* (2009) 47: 1-21.

11. **Premnath KN**, Pattison MJ, Banerjee S, "Steady State Convergence Acceleration of the Generalized Lattice Boltzmann Equation with Forcing Term Through Preconditioning" *Journal of Computational Physics* (2009) 228: 746-769.

2008

10. Pattison, MJ, **Premnath KN**, Morley NB, Abdou MA, "Progress in Lattice Boltzmann Methods for Magnetohydrodynamic Flows Relevant to Fusion Applications" *Fusion Engineering and Design* (2009) 83: 557-572.

2007

9. **Premnath KN**, Abraham J, "Three-Dimensional Multi-Relaxation-Time (MRT) Lattice Boltzmann Models for Multiphase Flows" *Journal of Computational Physics* (2007) 224: 539-559.

8. Pattison, MJ, **Premnath KN**, Morley NB, "Lattice Boltzmann Methods for Magnetohydrodynamic Flows in Fusion Applications" *Fusion Science and Technology* (2009) 52: 812-816.

2005

7. **Premnath KN**, Abraham J, "Lattice Boltzmann Model for Axisymmetric Multiphase Flows" *Physical Review E* (2007) 224: 539-559.

6. **Premnath KN**, Abraham J, "Simulations of Binary Drop Collisions with a Multiple Relaxation Time (MRT) Lattice Boltzmann Model" *Physics of Fluids* (2005) 17: 122105.

5. **Premnath KN**, Abraham J, "Lattice Boltzmann Simulations of Drop-Drop Interactions in Two-Phase Flows" *International Journal of Modern Physics* (2005) 16: 1-20.

4. **Premnath KN**, McCracken ME, Abraham J, "A Review of Lattice Boltzmann Methods for Multiphase Flows Relevant to Engine Sprays" *Transactions of the Society of Automotive Engineers – Journal of Engines* (2005) 113: 929-940.

2004

3. **Premnath KN**, Abraham J, "Discrete Lattice BGK Boltzmann Equation Computations of Transient Incompressible Turbulent Jets" *International Journal of Modern Physics C* (2004) 15: 699-719.

2003

2. Seeniraj, RV, **Kannan NP*****, "Magnetic Field Effects upon Heat Transfer for Laminar Flow of Warm Liquid over a Melting Slab" *International Journal of Heat and Mass Transfer* (2003) 46: 1599-1605.

1998

1. Seeniraj, RV, Velraj, R, **Kannan NP*****, "Analytical Solutions for Planar and Axisymmetric Melting with Heat Capacity Effects of Flowing Stream and PCM" *International Communications in Heat and Mass Transfer* (1998) 25: 1041-1058.

Note: **denotes co-authorship with students that I mentored; ***denotes publications arising from my undergraduate honor thesis.

Peer Reviewed Publications in Conference Proceedings

15. **Premnath KN**, Hajabdollahi F, Welch SWJ, "A Computational Approach to Study Heat Transfer Enhancement in Film Boiling due to the Addition of Surfactants" *Proceedings of the ASME 2016 14th International Conference on Nanochannels, Microchannels and Minichannels – ICNMM2016* (2013) HTFEICNMM2016-003, Washington, D.C., USA.

14. **Premnath KN**, Welch SWJ, "A Computational Study of Surfactant Induced Enhanced Heat Transfer in Film Boiling" *Proceedings of the 9th International Conference on Multiphase Flow – ICMF2016* (2016), Florence, Italy.

13. **Premnath KN**, Patil DV, Banerjee S, "Application of Coupled Lattice Boltzmann and Phase-Field Methods for Multiphase Flow Simulations" *Proceedings of the ASME 2013 Summer Heat Transfer Conference* (2013) HT2013-17696, Minneapolis, MN, USA.

12. Banerjee S, **Premnath KN**, Pattison MJ, "Turbulence Simulation using the Generalized Lattice Boltzmann Equation on Massively Parallel Architectures" *3rd Asia-Pacific Conference on Computational Mechanics (APCOM '07)in conjunction with 11th International Conference on Enhancement and Promotion of Computational Methods in Engineering and Science (EPMESC XI) (2007)*, Kyoto, Japan. (**Invited Paper**)

11. Pattison MJ, **Premnath KN**, Banerjee S, "Turbulence-Induced Secondary Flows in a Square Duct using a Multiple-Relaxation-Time Lattice Boltzmann Approach" *5th International Symposium on Turbulence and Shear Flow Phenomena (TSFP-5) Conference* (2007), Munich, Germany.

10. **Premnath KN**, Nave JC, Banerjee S, "Computations of Multiphase Flows with Lattice Boltzmann Methods" *Symposium on Gas-Liquid and Phase-Change at Macro- and Micro-Scales, American Society of Mechanical Engineers (ASME) International Mechanical Engineering Congress and Exposition (IMECE)* (2005), Orlando, FL, USA. (**Invited Paper**)

9. **Premnath KN**, Abraham J, "Simulations of Drop-Drop Collisions with a Lattice Boltzmann Model" *18th Annual Conference on Liquid Atomization and Spray Systems – ILASS Americas 2005* (2005), Irvine, CA, USA.

8. **Premnath KN**, McCracken ME, Abraham J, "A Review of Lattice Boltzmann Methods for Multiphase Flows Relevant to Engine Sprays" in Fundamental Advances in Thermal and Fluid Sciences, *Society of Automotive Engineers (SAE) 2003 World Congress* (2005), SAE 2005-01-0996, Detroit, MI, USA. (**Invited Paper**)

7. **Premnath KN**, Abraham J, "Lattice Boltzmann Simulations of Drop-Drop Investigations in Two-Phase Flows" *5th International Conference on Multiphase Flow* (2005), Yokohama, Japan.

6. **Premnath KN**, Mukherjee S, Abraham J, "Lattice Boltzmann Simulations of a Wall Impinging Drop" *17th Annual Conference on Liquid Atomization and Spray Systems – ILASS Americas 2004* (2004), Washington, DC, USA.

5. **Premnath KN**, McCracken ME, Magi V, Abraham J, "Lattice Boltzmann Studies of Droplet Deformation" *16th Annual Conference on Liquid Atomization and Spray Systems – ILASS Americas 2003* (2003), Monterey, CA, USA.

4. **Premnath KN**, McCracken ME, Abraham J, "Lattice Boltzmann Simulations of Flows in a Duct with Multiple Inlets", *Society of Automotive Engineers (SAE) 2003 World Congress* (2005), SAE 2003-01-0220, Detroit, MI, USA.

3. **Premnath KN**, Abraham J, "Lattice Boltzmann Simulations of Incompressible Jets on Parallel Computers", *High Performance Computing (HPC) Symposium, Advanced Simulation Technologies Conference* (2002), HPC Paper 0144, San Diego, CA, USA.

2. **Premnath KN**, Magi V, Abraham J, "Parallelization of a Multidimensional Code for the Simulation of Flows in Engines: Performance with the OpenMP Programming Model", *High Performance Computing (HPC) Symposium, Advanced Simulation Technologies Conference* (2002), HPC Paper 0148, San Diego, CA, USA.

1. **Premnath KN**, Abraham J, "Dependence of Fuel-Air Mixing Characteristics on Injection Timing in an Early-Injection Diesel Engine" *Society of Automotive Engineers (SAE) 2002 World Congress* (2005), SAE 2002-01-0994, Detroit, MI, USA.

Peer Reviewed Books and Book Chapters

1. **Premnath KN**, Abraham J, "Lattice Boltzmann Method for Sprays" in *Handbook of Atomization and Sprays – Theory and Applications* (Edited by N. Ashgriz), ISBN: 978-1441972637, Springer (2011), New York.

Peer Reviewed Book Reviews

n/a

Funded Grants

9. PI: **Premnath KN**, "Computational Investigation of the Effects of Surfactants on Bubble Dynamics, Bubble Swarm Interactions and Turbulent Flow" *National Science Foundation.* CBET – 7730984. **$313,746** (submitted 10/20/2016) – *funded*

   Award Number: 1705630 Award Amount: **$313,746**

   Project Start Date: 06/15/2017

   Project End Date: 05/31/2020 (Estimated)

8. PI: **Premnath KN**, "Development of Three-dimensional Cascaded Lattice Boltzmann Method for Computation of Turbulent Flows" *National Center for Supercomputing Applications/National Science Foundation Teragrid.* CTS-110023. **10,000 supercomputing time hours** (submitted 12/15/2010) – approved

7. PI: **Premnath KN**, "A Novel Lattice Boltzmann Method for Immiscible Multiphase Flows with High Viscosity Contrasts and Wetting Effects" *Ingrain Inc., Houston, TX.* **$100,000** (submitted September 2008) – *funded*

6. PI: **Premnath KN**, "Large Eddy Simulations of Wall-Bounded Turbulent Flows using the Generalized Lattice Boltzmann Equation" *National Center for Supercomputing Applications/National Science Foundation Teragrid.* CTS-060027. **10,000 supercomputing time hours** (submitted March 2007) – approved

5. PI: **Premnath KN**, "Computational Aeroacoustics using the Generalized Lattice Boltzmann Equation" *National Aeronautics and Space Administration (NASA) Phase II SBIR.* NNL07AA04C. **$600,000** (submitted November 2006) – *funded*

4. PI: **Premnath KN**, "Lattice Boltzmann Method for Multiphase Reacting Flows with Chemical Industry Applications" *National Science Foundation Phase I SBIR.* OII-0610893. **$100,000** (submitted May 2006) – *funded*

3. PI: **Premnath KN**, "Computational Aeroacoustics using the Generalized Lattice Boltzmann Equation" *National Aeronautics and Space Administration (NASA) Phase I SBIR.* NNL06AA34P. **$70,000** (submitted January 2006) – *funded*

2. PI: **Premnath KN**, "Lattice Boltzmann Simulations of Magnetohydrodynamic Flows in Fusion Applications" *National Center for Supercomputing Applications/National Science Foundation.* CTS-060027. **10,000 supercomputing time hours** (submitted January 2006) – approved

1. PI: Pattison MJ, "Development of a Prototype Lattice Boltzmann Code for CFD of Fusion Systems" *Department of Energy Phase II SBIR.* DE-FG02-03ER83715. Key Personnel: **Premnath KN**. **$750,000** (submitted August 2004) – *funded*

Other Indicators of Scholarly and Creative Activity

1. Total number of citations of journal publications and peer-reviewed conference proceedings): **971** (Source: Google Scholar as of 08/24/2018); I contributed to most of these publications as the lead author.

2. I was a primary developer of the copyrighted **MetaCFD code** based on advanced formulations of the lattice Boltzmann methods for turbulent flows, aeroacoustics, multiphase flows, magnetohydrodynamics and thermal transport on locally refined grids developed at MetaHeuristics LLC, Santa Barbara, CA. An open source version for academic use by researchers on flow simulations is available upon request.

Non-Peer Reviewed Publications, Exhibitions, Performances, etc. (i.e. Technical Reports, Posters, Theses)

11. Patil DV, **Premnath KN**, Banerjee S, "Development and Assessment of Lattice Boltzmann Methods for Steady-State Convergence Acceleration: Multigrid and Preconditioning Strategies" *Poster Exhibited at the 21st Discrete Simulation of Fluid Dynamics (DSFD)*, Edinburgh, Scotland, UK, July (2015).

10. **Premnath KN**, "Point-Implicit Multigrid Lattice Boltzmann Schemes for Efficient Computation of Time-Dependent Problems" *Research Report, Department of*

Mechanical Engineering (Version 1.1), University of Colorado Denver, Denver, CO, October (2014).

9. **Premnath KN**, Pattison MJ, "Computational Aeroacoustics using the Generalized Lattice Boltzmann Equation" *Phase II NASA SBIR Final Report from MetaHeuristics LLC for Contract* NNL07AA04C, submitted to NASA Langley Research Center, Hampton, VA (Technical Monitor: Dr. R. Rubinstein), November (2008).
8. Pattison MJ, **Premnath KN**, Dwivedi V, Banerjee S, "Development of a Prototype Lattice Boltzmann Code for CFD of Fusion Systems" *Phase II DOE SBIR Final Report from MetaHeuristics LLC for Grant* DE-FG02-03ER83715, submitted to Department of Energy, Washington, D.C. (Program Manager: Dr. G. Nardella), November (2008).
7. **Premnath KN**, "Lattice Boltzmann Method for Multiphase Reacting Flows with Chemical Industry Applications" *Phase I NSF SBIR Final Report from MetaHeuristics LLC for Award OII-0610893*, submitted to National Science Foundation, Arlington, VA (Program Director: Dr. R. Wesson), January (2007).
6. **Premnath KN**, "Computational Aeroacoustics using the Generalized Lattice Boltzmann Equation" *Phase I NASA SBIR Final Report from MetaHeuristics LLC for Contract NNL06AA34P*, submitted to NASA Langley Research Center, Hampton, VA (Technical Monitor: Dr. F. Farassat), July (2006).
5. **Premnath KN**, "Lattice Boltzmann Models for Simulations of Drop-Drop Collisions" *Ph.D. Dissertation*, School of Mechanical Engineering, Purdue University, West Lafayette, IN, October (2004).
4. **Premnath KN**, "An Approach to Parallelizing a Multidimensional Code for Engines with Applications to Early-Injection Engines" *Master's Thesis*, School of Mechanical Engineering, Purdue University, West Lafayette, IN, May (2001).
3. **Premnath KN**, "Double Wall Liquefied Gas Storage Tank (DWST620) Program User Manual" *Technical Report 7224, Research & Development – Group II*, Larsen & Toubro Limited, Bombay, India, August (1998).
2. **Premnath KN**, "Mechanical Design Aspects of Double-Wall Liquefied Gas Storage Tank" *Technical Report 7193, Research & Development – Group II*, Larsen & Toubro Limited, Bombay, India, November (1997).
1. **Premnath KN**, "An Analytical and Experimental Study of the Shell and Tube Latent Heat Thermal Storage Device" *Bachelor's Thesis*, College of Engineering Guindy, Anna University, Chennai, India, May (1997).

Non-Peer Reviewed Books and Book Chapters

n/a

Non-Peer Reviewed Book Reviews

n/a

Peer Reviewed Presentations at Meetings/Conferences (i.e. Peer Reviewed Abstracts)

32. Adam S, **Premnath KN**, "Non-Newtonian Fluid Flow Simulations using Cascaded Lattice Boltzmann Method" *4th Annual Rocky Mountain Fluid Mechanics (RMFM) Symposium, Boulder,* Colorado, August (2018).

31. Yahia E, **Premnath KN**, "Central Moment Lattice Boltzmann Method for Computation of Flows on Stretched Lattice Grids" *4th Annual Rocky Mountain Fluid Mechanics (RMFM) Symposium, Boulder,* Colorado, August (2018).

30. Hajabdollahi F, **Premnath KN**, "Multigrid Central Moment Lattice Boltzmann Method for Efficient Solution of Coupled Flow and Scalar Transport" *15th International Conference on Mesoscopic Methods in Engineering and Science (ICMMES), Newark*, Delaware, July (2017).

29. Adam S, **Premnath KN**, "Numerical Investigation of Non-Newtonian Rheological Flows using Cascaded Lattice Boltzmann Method" *27th Discrete Simulation of Fluid Dynamics (DSFD), Worcester*, Massachusetts, June (2018).

28. Jebakumar AS, **Premnath KN**, Abraham J, "Direct Numerical Simulations of Particle-Laden Turbulent Channel Flow" *American Physical Society (APS) 70th Annual Division of Fluid Dynamics (DFD) Meeting, Denver,* Colorado, November (2017).

27. Hajabdollahi F, **Premnath KN**, "Three-dimensional Cascaded Lattice Boltzmann Model for Thermal Convective Flows" *American Physical Society (APS) 70th Annual Division of Fluid Dynamics (DFD) Meeting, Denver,* Colorado, November (2017).

26. Adam S, **Premnath KN**, "Numerical Modeling of Non-Newtonian and Viscoelastic Flows using Central Moment Lattice Boltzmann Approach" *American Physical Society (APS) 70th Annual Division of Fluid Dynamics (DFD) Meeting, Denver,* Colorado, November (2017).

25. Yahia E, **Premnath KN**, "Effective Simulation Strategy of Multiscale Flows using a Lattice Boltzmann Model with a Stretched Lattice" *American Physical Society (APS) 70th Annual Division of Fluid Dynamics (DFD) Meeting, Denver,* Colorado, November (2017).

24. **Premnath KN**, Hajabdollahi F, Welch SWJ, "Computational Modeling and Simulation of Surfactant-Laden Phase Change Boiling Flow Processes" *American Society of Mechanical Engineers (ASME) 2017 International Conference on Nanochannels, Microchannels, and Minichannels*, Cambridge, Massachusetts, August (2017).

23. Jebakumar AS, **Premnath KN**, Abraham J, "Lattice-Boltzmann Simulations of Turbulence Modulation in a Particle-Laden Channel Flow" *14th International Conference on Mesoscopic Methods in Engineering and Science (ICMMES), Nantes*, France, July (2017).

22. Adam S, **Premnath KN**, "Viscoelastic Flow Modeling using Cascaded Central Moment Lattice Boltzmann Method" *14th International Conference on Mesoscopic Methods in Engineering and Science (ICMMES), Nantes*, France, July (2017).

21. Hajabdollahi F, **Premnath KN**, "Multigrid Central Moment Lattice Boltzmann Method for Efficient Solution of Coupled Flow and Scalar Transport" *14th International Conference on Mesoscopic Methods in Engineering and Science (ICMMES), Nantes*, France, July (2017).

20. **Premnath KN**, Hajabdollahi F, Welch SWJ, "Conservative Volumetric Formulation of the Interfacial Surfactant Transport Equation for Simulation of Surfactant-Laden Multiphase Flows with Phase Change" *American Society of Mechanical Engineers (ASME) 2017 Summer Heat Transfer Conference*, Bellevue, Washington, July (2017).

19. Jebakumar AS, **Premnath KN**, Abraham J, "Direct Numerical Simulations of Particle-Flow Interactions in a Channel" *American Physical Society (APS) March Meeting,* New Orleans, Louisiana, March (2017).

18. Hajabdollahi F, **Premnath KN**, "Multigrid Preconditioned Lattice Boltzmann Method Based on Central Moments for Efficient Computation of Fluid Flows" *Society of Industrial and Applied Mathematics (SIAM) Conference on Computational Science and Engineering (CSE), Atlanta,* Georgia, February (2017).

17. Hajabdollahi F, **Premnath KN**, "Lattice Boltzmann Models for Flows with Axial Symmetry and Mass and Momentum Sources without Cubic Velocity Errors" *American Physical Society (APS) 69th Annual Division of Fluid Dynamics (DFD) Meeting, Portland,* Oregon, November (2016).

16. Adam S, **Premnath KN**, "An Improved Lattice Boltzmann Model for Non-Newtonian Flows with Applications to Solid-Fluid Interactions in External Flows" *American Physical Society (APS) 69th Annual Division of Fluid Dynamics (DFD) Meeting, Portland,* Oregon, November (2016).

15. Hajabdollahi F, **Premnath KN**, "Galilean Invariant Lattice Boltzmann Formulations for Generalized Navier-Stokes Equations: Applications to Porous Media Flows and Preconditioning" *13th International Conference on Mesoscopic Methods in Engineering and Science (ICMMES), Hamburg*, Germany, July (2016).

14. Adam S, **Premnath KN**, "Numerical Investigation of Non-Newtonian Fluid-Solid Interactions in External Flows using Lattice Boltzmann Method" *13th International Conference on Mesoscopic Methods in Engineering and Science (ICMMES), Hamburg*, Germany, July (2016).

13. **Premnath KN**, Hajabdollahi F, Welch SWJ, "A Computational Approach to Study Heat Transfer Enhancement in Film Boiling due to the Addition of Surfactants" *American Society of Mechanical Engineers (ASME) HT/FE/ICNMM 2016 Heat Transfer, Fluids Engineering, & Nanochannels, Microchannels and Minichannels Conferences – ICNMM2016,* Washington, D.C., July (2016).

12. **Premnath KN**, Welch SWJ, "A Computational Study of Surfactant Induced Enhanced Heat Transfer in Film Boiling" *9th International Conference on Multiphase Flow,* Florence, Italy, May (2016).

11. Jebakumar AS, **Premnath KN**, Abraham J, "Fully Resolved Direct Numerical Simulations of a Particle in a Turbulent Channel Flow" *American Physical Society (APS) 68th Annual Division of Fluid Dynamics (DFD) Meeting,* Boston, Massachusetts, November (2015).

10. Hajabdollahi F, **Premnath KN**, "Improving the Low-Mach Number Steady State Convergence of the Cascaded Lattice Boltzmann Method by Preconditioning" *12th International Conference on Mesoscopic Methods in Engineering and Science (ICMMES),* Beijing, China, July (2015).

9. Jebakumar AS, **Premnath KN**, Abraham J, "LBM Simulations of Stokes Number Effects on Particle Trajectories in a Wall-Bounded Flow" *11th International Conference on Mesoscopic Methods in Engineering and Science (ICMMES),* New York City, New York, July (2014).

8. **Premnath KN**, Patil DV, Banerjee S, "Multigrid Lattice Boltzmann Method for Fast Solution of Elliptic Equations" *11th International Conference on Mesoscopic Methods in Engineering and Science (ICMMES),* New York City, New York, July (2014).

7. **Premnath KN**, Patil DV, Banerjee S, "Application of Coupled Lattice Boltzmann and Phase-Field Methods for Multiphase Flow Simulations" *American Society of Mechanical Engineers (ASME) 2013 Summer Heat Transfer Conference*, Minneapolis, Minnesota, July (2013).

6. Patil DV, **Premnath KN**, Desai D, Banerjee S, "Electrodeposition Modeling using Coupled Phase-field and Lattice Boltzmann Approach" *21st Discrete Simulation of Fluid Dynamics (DSFD),* Bangalore, India, August (2012).

5. **Premnath KN**, Ning Y, "Moment Relaxation Formulations of the Lattice Boltzmann Method and Their Applications" *19th Discrete Simulation of Fluid Dynamics (DSFD)-2010,* Rome, Italy, July (2010).

4. **Premnath KN**, Pattison MJ, Banerjee S, "Lattice Boltzmann Method based on Phase-Field Models for Multiphase Flows including Phase Change" *American Society of Chemical Engineers (AIChE) 2006 Annual Meeting,* San Francisco, California, July (2006).

3. Pattison MJ, **Premnath KN**, Morley NB, "Lattice Boltzmann Methods for Magnetohydrodynamic Flows in Fusion Applications" *American Nuclear Society (ANS) Winter Meeting,* Albuquerque, New Mexico, November (2006).

2. **Premnath KN**, Pattison MJ, "Computation of Magnetohydrodynamic Flows using the Lattice Boltzmann Method" *Plasma Facing Components Meeting*, Princeton Plasma Physics Lab (PPPL), Princeton, New Jersey, May (2005).

1. **Premnath KN**, Abraham J, "A Lattice Boltzmann Scheme for Axisymmetric Multiphase Flows" *1st International Conference on Mesoscopic Methods in Engineering and Science (ICMMES),* Braunschweig, Germany, July (2004).

Non-Peer Reviewed Presentations at Meetings/Conferences

n/a

Seminars/Workshops Presented

16. **Premnath KN**, "Lattice Boltzmann Methods for Computational Fluid Dynamics Applications" *UCCS Mechanical and Aerospace Engineering Seminar*, University of Colorado Colorado Springs, Colorado Springs, CO, March (2016).
15. **Premnath KN**, "Lattice Boltzmann Methods for Efficient Simulation of Complex Flows" *Center for Computational Mathematics Colloquium, Department of Mathematics and Statistics*, University of Colorado Denver, Denver, CO, September (2014).
14. **Premnath KN**, "Lattice Boltzmann Simulations of Interfacial Flows and Turbulence" *College of Engineering and Applied Science Seminar*, University of Colorado Denver, Denver, CO, November (2013).
13. **Premnath KN**, "Generalized Lattice Boltzmann Methods and Its Variants for Fluid Flows: Concepts and Applications" *Department of Mechanical Engineering Seminar*, University of Colorado Denver, Denver, CO, April (2012).
12. **Premnath KN**, "Generalized Lattice Boltzmann Methods and Its Variants for Fluid Flows: Concepts and Applications" *Department of Mechanical Engineering Seminar*, Clarkson University, Potsdam, NY, February (2012).
11. **Premnath KN**, "Generalized Lattice Boltzmann Methods and Its Variants for Fluid Flows: Concepts and Applications" *Department of Mechanical Engineering Seminar*, Louisiana State University, Baton Rouge, LA, March (2009).
10. **Premnath KN**, "Generalized Lattice Boltzmann Methods and Its Variants for Fluid Flows: Concepts and Applications" *Mechanical Engineering Department Seminar*, University of Wyoming, Laramie, WY, March (2009).
9. **Premnath KN**, "On Lattice-Boltzmann Methods for Complex Fluid Flow and Transport Phenomena" *Mechanical Engineering Department Seminar*, University of Victoria, British Columbia, Canada, April (2008).
8. **Premnath KN**, "Lattice Boltzmann Methods for Fluid Flow and Transport Phenomena" *Mechanical and Industrial Engineering Department Seminar*, Northeastern University, Boston, MA, April (2008).
7. **Premnath KN**, "Lattice Boltzmann Methods and Beyond" *Mechanical Engineering Department Seminar*, University of California, Santa Barbara, Santa Barbara, CA, April (2008).
6. **Premnath KN**, "Recent Developments in Lattice Boltzmann Methods for Computational Fluid Dynamics" *Aerospace and Mechanical Engineering Department Seminar*, Boston University, Boston, MA, March (2008).
5. **Premnath KN**, "Lattice-Boltzmann Method: Recent Developments for Simulations of Turbulent Flows, Multiphase Systems and Magnetohydrodynamics" *Mechanical and Aerospace Engineering Department Thermo/Fluids Seminar Series*, University of California, Los Angeles, Los Angeles, CA, February (2008).
4. **Premnath KN**, "Lattice Boltzmann Simulations of Fluid Flows in Exhaust Manifolds of Engines" *Combustion, Energy Utilization and Thermodynamics Series*,

School of Mechanical Engineering, Purdue University, West Lafeyette, IN, October (2002).

3. **Premnath KN**, "Lattice Boltzmann Simulations of Flows in Jets and Channels" *Computational Science and Engineering Program Spring 2002 Seminar Series*, Department of Computer Sciences, Purdue University, West Lafeyette, IN, March (2002).

2. **Premnath KN**, "Mixing Characteristics in PREDIC Engines" *Combustion, Energy Utilization and Thermodynamics Series*, School of Mechanical Engineering, Purdue University, West Lafeyette, IN, November (2001).

1. **Premnath KN**, "Serial and Parallel Multidimensional Computations of Diesel Engine Flows" *Computational Science and Engineering Program Fall 2000 Seminar Series*, Department of Computer Sciences, Purdue University, West Lafeyette, IN, November (2000).

In addition, I have made presentations to personnel of various U.S. industrial/corporate organizations including *Fluent Inc.*, *Ingrain Inc.*, *Detroit Diesel Corporation*, *John Deere Corporation*, *Cummins Engine Company, Arvin Meritor* and *General Atomics-Aeronautical*.

Professional Organizations

2004 – Present *Member*, American Society of Mechanical Engineers

Publications/Creative Works in Preparation

10. **Premnath KN**, "Viscous Current Induced by Kelvin Force in Ordinary Fluids with Susceptibility Contrasts", *In Preparation*

9. **Premnath KN**, Patil DV, Banerjee S, "Preconditioned Lattice Boltzmann Method for Steady Multiphase Flows", *In Preparation*

8. **Premnath KN**, "Effects of Streamwise Rotation on an Open Channel Turbulent Flow using the Lattice Boltzmann Method", *In Preparation*

7. Ingalls Z**, **Premnath KN**, "A Computational Study of Heat Sink Designs in a Direct Burial LED Light Fixture: Effects on Junction Temperature", *In Preparation*

6. **Premnath KN**, Abdelrahim S**, "Thermocapillary Convection in the presence of Kelvin Force", *In Preparation*

5. **Premnath KN**, Dawoud J** , "Effect of Magnetic Field on Unsteady Sliding Contact Melting Process of Electrically Conducting Solids", *In Preparation*

4. Aljaghtham M**, **Premnath KN**, "Microscale Sliding Contact Melting: Unsteady Solution", *In Preparation*

3. Alsulami R**, **Premnath KN**, "Navier Slip Effects on Condensation Over Horizontal Upward Facing Surfaces with Free Edges", *In Preparation*

2. El Habashi S**, **Premnath KN**, "Solidification of Hydromagnetic Shear and Pressure Driven Flow with Viscous and Joulean Heat Dissipation", *In Preparation*

1. **Premnath KN**, Jafar HA**, "Boundary Layer Slip Flow and Heat Transfer Over an Adiabatic Flat Plate: Influence of Kelvin Force and Viscous Dissipation", *In Preparation*

Note: ** denotes co-authorship with students that I mentored

Courses Taught

2018

26. MECH 5180: Advanced Heat Transfer (Graduate)
University of Colorado Denver

25. MECH 3010: Elementary Numerical Methods in Engineering (Undergraduate)
University of Colorado Denver

24. MECH 5228: Introduction to Turbulence (Graduate)
University of Colorado Denver

23. MECH 3021: Introduction to Fluid Mechanics (Undergraduate)
University of Colorado Denver

2017

22. MECH 5180: Advanced Heat Transfer (Graduate)
University of Colorado Denver

21. MECH 3010: Elementary Numerical Methods in Engineering (Undergraduate)
University of Colorado Denver

20. MECH 6184: Advanced Fluid Mechanics (Graduate)
University of Colorado Denver

19. MECH 3021: Introduction to Fluid Mechanics (Undergraduate)
University of Colorado Denver

2016

18. MECH 5180: Advanced Heat Transfer (Graduate)
University of Colorado Denver

17. MECH 3010: Elementary Numerical Methods in Engineering (Undergraduate)
University of Colorado Denver

16. MECH 6184: Advanced Fluid Mechanics (Graduate)
University of Colorado Denver

15. MECH 3021: Introduction to Fluid Mechanics (Undergraduate)
University of Colorado Denver

2015

14. MECH 5180: Advanced Heat Transfer (Graduate)
University of Colorado Denver

13. MECH 3010: Elementary Numerical Methods in Engineering (Undergraduate)
University of Colorado Denver

12. MECH 5182: Microscale Transport Phenomena (Graduate)
University of Colorado Denver

2014

11. MECH 5162: Heat Transfer I (Graduate)
University of Colorado Denver

10. MECH 3010: Elementary Numerical Methods in Engineering (Undergraduate)
University of Colorado Denver

2013

9. MECH 5162: Heat Transfer I (Graduate)
University of Colorado Denver

8. MECH 3010: Elementary Numerical Methods in Engineering (Undergraduate)
University of Colorado Denver

2012

7. MECH 5122: Macroscopic Thermodynamics (Graduate)
University of Colorado Denver

2011

6. ME 5446: Turbulence (Graduate)
University of Wyoming

5. ME 2160: Thermo-fluids Laboratory (Undergraduate)
University of Wyoming

2010

4. ME 5442: Advanced Fluid Mechanics (Graduate)
University of Wyoming

3. ME 2160: Thermo-fluids Laboratory (Undergraduate)
University of Wyoming

2. ES 2330: Fluid Dynamics (Undergraduate)
University of Wyoming

2009

1. ES 2330: Fluid Dynamics (Undergraduate)
University of Wyoming

Independent Studies Offered to Students on Various Topics:

Lattice Boltzmann Simulation of Non-Newtonian Flows (Spring 2018) – Saad Adam

Analytical Modeling and Simulation of Self-rewetting Fluids (Fall 2017) – Bashir Elbousefi

Lattice Boltzmann Methods for Heat Transfer in Solid-Liquid Media based on Enthalpy Models (Spring 2017) – Daniel McGregor

Modeling of Thermocapillary Flows (Fall 2016) – Bashir Elbousefi

Grid Refinement and Anisotropic Meshes in Lattice Boltzmann Schemes (Fall 2016) – Eman Yahia

Matlab Processing of Medical Images (Fall 2016) – Daniele Souza Craveiro

Lattice Boltzmann Modeling (Spring 2016) – Daniel McGregor

High Performance Computing (Fall 2015) – Daniel McGregor

Flow Simulations using Lattice Boltzmann Methods (Fall 2015) – Eman Yahia, Fatma Elseid, Saad Adam, Srikesh Malapati

Kinetic Theory & Lattice Boltzmann Methods (Summer 2014) – Farzaneh Hajabdollahi

Kinetic Theory & Lattice Boltzmann Methods (Spring 2014) – Fatma Elseid, Saad Adam, Radi Alsulami, Mutabe Aljaghtham

Fluid Mechanics of Carbon Sequestration (Spring 2014) – Ahmed Rahuma

Service

University

2018	Admissions Committee for M.S. Program in Mechanical Engineering
2018	Undergraduate Students' Scholarship Committee for the College of Engineering Applied Science, CU Denver
2018	Graduate Council Committee Member representing the College of Engineering Applied Science, CU Denver | Anschutz Medical Campus
2018	Mechanical Engineering Faculty Evaluation Committee, CU Denver
2017	Undergraduate Students' Scholarship Committee for the College of Engineering Applied Science, CU Denver
2017	Mechanical Engineering Faculty Search Committee, CU Denver
2017	Admissions Committee for M.S. Program in Mechanical Engineering
2017	Graduate Council Committee Member representing the College of Engineering Applied Science, CU Denver | Anschutz Medical Campus
2017	Mechanical Engineering Ph.D. Comprehensive Exam – Committee Member for the Graduate Student Yuanlong Wang
2016	Mechanical Engineering Ph.D. Qualifying Examiner for 1 Graduate Student (Daniel McGregor) on Heat Transfer and Viscous Flow
2016	Faculty Advisor for the Indian Student Association, CU Denver
2016	Graduate Council Committee Member representing the College of Engineering Applied Science, CU Denver | Anschutz Medical Campus
2016	Admissions Committee for M.S. Program in Mechanical Engineering
2016	Mechanical Engineering Faculty Search Committee, CU Denver

2016	Mechanical Engineering Ph.D. Comprehensive Exam – Chair of the Committee for the Graduate Student Hamad Abdalkaleg
2015	Faculty Advisor for the Indian Student Association, CU Denver
2015	Mechanical Engineering Ph.D. Qualifying Examiner for 4 Graduate Students (Farzaneh Hajabdollahi, Eman Yahia, Cindy Munoz, Tahani Alsadik) on Heat Transfer and Viscous Flow
2015	Graduate Council Committee Member representing the College of Engineering Applied Science, CU Denver|Anschutz Medical Campus
2015	Civil Engineering Ph.D. Dissertation – Chair of the Committee for the Graduate Student Amirhossein Mehrkesh
2015	Admissions Committee for M.S. Program in Mechanical Engineering
2015	Mechanical Engineering Faculty Search Committee, CU Denver
2015	Mechanical Engineering Faculty Evaluation Committee, CU Denver
2015	Committee for Computer Cluster Purchase for Mechanical Engineering Department, CU Denver
2014	Civil Engineering External Ph.D. Qualifying Examiner for 3 graduate students (Amirhossein Mehrkesh, Bahador Mousavi, Reza Farahipour) on Fluid Dynamics, Heat Transfer and Thermodynamics
2014	Mechanical Engineering Ph.D. Qualifying Examiner for 2 Graduate Students (Fatma Elseid, Saad Adam) on Heat Transfer and Viscous Flow
2013-2014	Mechanical Engineering Graduate Review Committee for Assessment Criteria for Ph.D. dissertations, M.S. thesis and reports, CU Denver
2012	Mechanical Engineering Qualifying Exam Committee, CU Denver

<u>Academia</u>

2018	Reviewer, 22 manuscripts (various journals – till date)
2018	Reviewer, 1 book abstract on LBM for Heat Transfer Applications
2018	Member, Abstract Sorting Committee, American Physical Society (APS) 70th Annual Division of Fluid Dynamics (DFD) Meeting, Denver, CO
2017	Reviewer, 26 manuscripts (various journals)
2016	Reviewer, 23 manuscripts (various journals)
2015	Reviewer, 34 manuscripts (various journals)
2015	Reviewer, 1 book abstract on DNS and LES of Turbulence
2014	Session Chair, Turbulence and MHD at ICMMES-2014
2014	Reviewer, 14 manuscripts (various journals)
2013	Reviewer, 16 manuscripts (various journals)
2012	Reviewer, 10 manuscripts (various journals)

Reviewer for the following journals:
Journal of Computational Physics (2006-); Physical Review E (2009-); Physical Review Letters (2011-); Computers and Fluids (2014-); Physica A: Statistical Mechanics and Applications (2007-); Applied Mathematics and Computation (2009-); Journal of Computers and Mathematics with Applications (2009-); Journal of Computational and Applied Mathematics (2008-); Applied Mathematical Modelling (2011-); Computer Methods in Applied Mechanics and Engineering (2013-); Dispersion Science & Technology (2018-); Physics of Fluids (2018-); Physical Review Fluids (2018-); Progress in Aerospace Sciences (2017-); Journal of Sound and Vibration (2011-); Journal of Porous Media (2010-); International Journal of Heat and Fluid Flow (2011-); ASME Journal of Fluids Engineering (2011-); AIAA Journal of Propulsion and Power (2013-); Fluid Dynamics Research (2013-); International Journal of Heat and Mass Transfer (2013-); International Journal of Thermal Sciences (2014-); Applied Thermal Engineering (2014-); Thermal Science (2015-); International Journal of Modern Physics C (2016-); Physics Letters A (2011-); Journal of Physics A: Mathematical and General (2004-); Chinese Physics B (2015-); Communications in Computational Physics (2014-); Neural Computing and Applications (2016-); Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science (2011-); Atmospheric Environment (2012-); Engineering Applications for Computational Fluid Mechanics (2013-); Journal of Simulation Modelling Practice and Theory (2007-)

Reviewer for the following conference proceedings:
International Conference on Mesoscopic Methods in Engineering and Science (ICMMES); ASME Summer Heat Transfer Conference (HTC); Symposium on Turbulence and Shear Flow Phenomena (TSFP)**;** International Topical Meeting on Nuclear Reactor Thermal Hydraulics (NURETH); Society of Automotive Engineers (SAE) World Congress

Industry

2015 – 2015	Consultant, Livity, LLC
2008 – 2009	Consultant, Ingrain, Inc.
2004 – 2009	Principal Investigator, MetaHeuristics LLC

Primary Advisor

22.	Daniel McGregor – Ph.D. Thesis Advisor (current) – CU Denver
21.	Eman Yahia – Ph.D. Thesis Advisor (current) – CU Denver
20.	Farzaneh Hajabdollahi – Ph.D. Thesis Advisor (current) – CU Denver
19.	Saad Adam – Ph.D. Thesis Advisor (current) – CU Denver
18.	Kyle Megna – Undergraduate Student Summer Internship Advisor (2018) – CU Denver
17.	Emily Moore – M.S. Project Advisor (2017) – CU Denver
16.	Jason Blackford – M.S. Project Advisor (2017) – CU Denver
15.	Srikesh Malepati – M.S. Thesis Advisor (2016) – CU Denver

14. Kanchathan Wasuwatthanakul – M.S. Project Advisor (2016) – CU Denver
13. Tejas Zope – M.S. Project Advisor (2015) – CU Denver
12. Anusha Valisetty – M.S. Project Advisor (2015) – CU Denver
11. Mutabe Aljaghtham – M.S. Project Advisor (2014) – CU Denver
10. Radi Alsulami – M.S. Project Advisor (2014) – CU Denver
9. Ahmed Rahuma – M.S. Project Advisor (2014) – CU Denver
8. Hussain Alshaikh Jafar – M.S. Project Advisor (2014) – CU Denver
7. Salah El Habashi – M.S. Project Advisor (2014) – CU Denver
6. Mustafa Almadih – M.S. Project Advisor (2013) – CU Denver
5. Jumaa Dawoud – M.S. Project Advisor (2013) – CU Denver
4. Suleiman Abdelrahim – M.S. Project Advisor (2013) – CU Denver
3. Zachary Ingalls – M.S. Project Advisor (2013) – CU Denver
2. Dhiraj Patil – Postdoc Co-Advisor (2010-2013) – CUNY Energy Institute
1. Yang Ning – M.S. Thesis Advisor (2009-2011) – University of Wyoming

Committee Member

30. Bryan Beyers – M.S. Project (2018) – CU Denver
29. Artem Kuryacky – M.S. Project (2018) – CU Denver
28. Yuanlong Wang – Ph.D. Comprehensive Exam (2017) – CU Denver
27. Rebecca Sutton – M.S. Project (2017) – CU Denver
26. Mohammad Dabbagh – M.S. Thesis (2017) – CU Denver
25. Hussein Abbood – M.S. Thesis (2017) – CU Denver
24. Ahmed Ghadbhan – M.S. Thesis (2017) – CU Denver
23. Yuxuan Chen – M.S. Project (2016) – CU Denver
22. Vernon Baca – M.S. Project (2016) – CU Denver
21. Rachel Wouterpfenning – M.S. Project (2016) – CU Denver
20. Hamad Abdalkaleg – Ph.D. Comprehensive Exam (2016) – CU Denver
19. Abdalla Essoughi – M.S. Project (2016) – CU Denver
18. Hassan Hwisa – M.S. Project (2016) – CU Denver
17. Damien Fleming – M.S. Project (2016) – CU Denver
16. Abdalfadel Younis – M.S. Project (2016) – CU Denver
15. Muzaffar Burhan – M.S. Project (2016) – CU Denver

14. Abdullateef Almulla – M.S. Project (2015) – CU Denver
13. Amirhossein Mehrkesh – Ph.D. Thesis (2015) – CU Denver
12. Marius Nica – M.S. Project (2015) – CU Denver
11. Jeremy Graybill – M.S. Project (2015) – CU Denver
10. Noureddin Orayeth – M.S. Project (2015) – CU Denver
9. Hang Yu – M.S. Thesis (2014) – CU Denver
8. Brooke Mosley – M.S. Project (2014) – CU Denver
7. Adam Wilson – M.S. Project (2014) – CU Denver
6. Nathan Smith – M.S. Project (2014) – CU Denver
5. Mohammad Khalil – M.S. Project (2014) – CU Denver
4. Haitham Asokni – M.S. Project (2014) – CU Denver
3. Mohammad Alsaid – M.S. Project (2013) – CU Denver
2. Clifton Breary – M.S. Project (2013) – CU Denver
1. Kunal Soni – M.S. Thesis (2011) – University of Wyoming

Completed Graduate Thesis and Projects as Primary Advisor

Emily Moore, "Lattice Boltzmann Method for Magnetohydrodynamic Flow", M.S. Project (2017) – CU Denver

Jason Blackford, "A Comparative Study of Cascaded and Non-orthogonal Multiple Relaxation Time Lattice Boltzmann Models", M.S. Project (2017) – CU Denver

Srikesh Malepati, "Influence of Magnetic Field on Direct Contact Melting Undergoing Rotation", M.S. Thesis (2016) – CU Denver

Kanchathan Wasuwatthanakul, "Thermocapillary-Driven Convection of Superimposed Fluids in Microchannels under Various Boundary Conditions: Analytical Solutions", M.S. Project (2016) – CU Denver

Tejas Zope, "Quasi-Steady Analytical Solution of Convectively Cooled Solidification with Internal Heat Generation in Planar, Cylindrical and Spherical Geometries", M.S. Project (2015) – CU Denver

Anusha Valisetty, "Influence of Magnetic Field on Marangoni Convection due to Power Law Interfacial Heat Flux", M.S. Project (2015) – CU Denver

Mutabe Aljaghtham, "Microscale Sliding Contact Melting: Unsteady Solution", M.S. Project (2014) – CU Denver

Radi Alsulami, "Navier Slip Effects on Condensation Over Horizontal Upward Facing Surfaces with Free Edges", M.S. Project (2014) – CU Denver

Salah El Habashi, “Solidification of Hydromagnetic Shear and Pressure Driven Flow with Viscous and Joulean Heat Dissipation”, M.S. Project (2014) – CU Denver

Hussain Alshaikh Jafar, “Boundary Layer Slip Flow and Heat Transfer Over an Adiabatic Flat Plate: Influence of Kelvin Force and Viscous Dissipation”, M.S. Project (2013) – CU Denver

Ahmed Rahuma, “Surfactant Effects on Capillary Pressure in Fracking Process”, M.S. Project (2014) – CU Denver

Mustafa Almadih, “Heat Balance Integral Solution of Solidification Process of a Liquid Over a Rotating Cylinder”, M.S. Project (2013) – CU Denver

Jumaa Dawoud, “Effect of Magnetic Field on Unsteady Sliding Contact Melting Process of Electrically Conducting Solids”, M.S. Project (2013) – CU Denver

Suleiman Abdelrahim, “Thermocapillary Convection in the Presence of Kelvin Force”, M.S. Project (2013) – CU Denver

Zachary Ingalls, “A Computational Study of Heat Sink Designs in a Direct Burial LED Light Fixture: Effects on Junction Temperature”, M.S. Project (2013) – CU Denver

Yang Ning, “Numerical Investigation of the Cascaded Lattice Boltzmann Method”, M.S. Thesis (2011) – University of Wyoming