

Marina S. Astanina

Laboratory on Convective Heat and Mass Transfer, Tomsk State University
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EDUCATION

- 2018–Present Ph.D. student
Specialization “A transient free convective heat transfer with temperature-dependent viscosity in an areas with porous medium and a heat sources” at Tomsk State University, Russia
- 2018 Master’s degree in Fluid Mechanics, Tomsk State University, Russia
- 2016 Bachelor’s degree in Fluid Mechanics, Tomsk State University, Russia

APPOINTMENTS

- 2018–Present Junior Researcher at the Laboratory on Convective Heat and Mass Transfer, Tomsk State University
- 2016–2017 Laboratory Assistant at the Laboratory on Convective Heat and Mass Transfer, Tomsk State University

AREAS OF INTEREST

Conjugate heat and mass transfer

Natural, mixed and forced convection

Heat and mass transfer in porous media

Fluid flow and heat transfer in nanofluids

Numerical analysis

Heat transfer and flow pattern in electronic systems

Computational fluid dynamics

AWARDS

- Russian Federation Government's Scholarship in priority areas of education, Russia, 2019.
- Tomsk Governor's Award for Young Researchers, Tomsk, Russia, 2018.
- Tomsk Governor's Scholarship for Students, Tomsk, Russia, 2017.
- Tomsk Mayor's Scholarship for Students, Tomsk, Russia, 2017.
- Russian Government Scholarship for Students, 2017

Journal papers

1. Astanina M.S., Sheremet M.A., Umavathi J.C., (2015), Unsteady natural convection with temperature-dependent viscosity in a square cavity filled with a porous medium // *Transport in Porous Media*. 110 (1): 113-126.
2. Astanina M.S., Sheremet M.A., (2016), A transient free convection study with temperature-dependent viscosity in a square cavity with a local heat source// *IOP Conf. – Ser.: Mater. Sci. Eng.* 124 (1): 012039.
3. Astanina, M.S., Sheremet, M.A., Oztop, H.F., Abu-Hamdeh, N., (2017), Natural convection in a differentially heated enclosure having two adherent porous blocks saturated with a nanofluid// *Eur. Phys. J. Plus*. 132: 509.
4. Astanina M.S., Sheremet M.A., (2017), Natural convection of water in a partially porous enclosure with a heat-generating element// *MATEC Web of Conferences*. 141: 01010.
5. Astanina M.S., Mohamed Kamel Riahi, Abu-Nada E., Sheremet M.A., (2018), Magnetohydrodynamic in partially heated square cavity with variable properties: Discrepancy in experimental and theoretical conductivity correlations// *International Journal of Heat and Mass Transfer*. 116: 532-548.
6. Astanina M.S., Sheremet M.A., Umavathi J.C., (2018), Effect of thermal radiation on natural convection in a square porous cavity filled with a fluid of temperature-dependent viscosity// *Thermal Science*. 22 (1): 391–399.
7. Astanina M.S., Sheremet M.A., Oztop H.F., Abu-Hamdeh N., (2018), MHD natural convection and entropy generation of ferrofluid in an open trapezoidal cavity partially filled with a porous medium// *International Journal of Mechanical Science*. 136: 493-502.
8. Astanina M.S., Sheremet M.A., Oztop H.F., Abu-Hamdeh N., (2018), Mixed convection of Al₂O₃-water nanofluid in a lid-driven cavity having two porous layers// *International Journal of Heat and Mass Transfer*. 118: 527-537.
9. Astanina M.S., Sheremet M.A., Umavathi J.C., (2018), Transient natural convection with temperature-dependent viscosity in a square partially porous cavity having a heat-generating source// *Numerical Heat Transfer; Part A: Applications*. 73 (12): 849–862.
10. Astanina M.S., Abu-Nada E., Sheremet M.A., (2018), Combined effects of thermophoresis, Brownian motion, and nanofluid variable properties on CuO-water nanofluid natural convection in a partially heated square cavity// *Journal of Heat Transfer*. 140 (8): 082401.
11. Astanina M.S., Sheremet M.A., Pop I., (2018), MHD natural convection in a square porous cavity filled with a water-based magnetic fluid in the presence of geothermal viscosity// *International Journal of Numerical Methods for Heat and Fluid Flow*. 128(9): 2111–2131.
12. Astanina M.S., Sheremet M.A., (2019), Simulation of mixed convection of a variable viscosity fluid in a partially porous horizontal channel with a heat-

generation source// *Computer Research and Modeling*. 11(1): 95–107.

Conference Proceedings

1. Astanina M.S. Numerical analysis of unsteady natural convection with a fluid of temperature-dependent viscosity in a closed cavity with local isothermal elements, In: Proceedings of the 54th International Scientific Student Conference, 16–20 April 2016, Novosibirsk, Russia. P. 152.
2. Astanina M.S. Simulation of natural convection fluid with a fluid of temperature-dependent viscosity in a closed porous cavity, In: The IVth International Youth Forum, 10–14 October 2016, Tomsk, Russia, P. 68–71.
3. Astanina M.S., Sheremet M.A. Analysis of the porosity effect on convective heat transfer in an enclosure, filled with a variable viscosity fluid, In: The VIth International Youth Scientific Conference «Currently issues of continuum mechanics and celestial mechanics–2016», 16–18 November, 2016. P. 103–104.
4. Astanina M.S. Convection in a heated closed porous cavity filled with a fluid with variable viscosity, In: Proceedings of the 55th International Scientific Student Conference, 17–20 April 2017, Novosibirsk, Russia. P. 140.
5. Astanina M.S. Analysis of convective heat transfer in a heated enclosure with/without porous insertion, In: The XIV International Conference of students, graduate students and young scientists «Prospects of fundamental sciences development», 25–28 April 2017, Tomsk, Russia, P. 14–17.
6. Astanina M.S., Sheremet M.A. Effect of fluid temperature-dependent viscosity on convective heat and mass transfer in a partially porous enclosure with a heat-generating element, In: The VII International Scientific Conference «Current issues of continuum mechanics and celestial mechanics–2017», 27–29 November 2017, Tomsk, Russia, P. 245–247.
7. Astanina M.S. Regimes of a mixed convection of a viscous fluid in a horizontal channel in the presence of a heat-generating source, In: The XV International scientific and practical conference of students, of graduate students and young scientists «Youth and modern information technology», 04–07

December 2017, Tomsk, Russia, P. 23–24.

8. Astanina M.S. Study of mixed convection regimes in a porous channel with a heat source, In: Proceedings of the 56th International Students Scientific Conference 22–27 April 2018, Novosibirsk, Russia, 2018, P. 33.

9. Astanina M.S. Thermogravitational convection in a porous square cavity having an energy source, In: The XV International Conference of students, graduate students and young scientists «Prospects of fundamental sciences development», 24–27 April 2018, Tomsk, Russia, P. 19–21.

10. Astanina M.S. Intensification of heat transfer in a closed cavity in the presence of the porous insert by a source perimeter, In: The XVI International scientific and practical conference of students, of graduate students and young scientists «Youth and modern information technology», 03–07 December 2018, Tomsk, Russia, P. 23–24.