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Peristalsis of water based nanofluids with variable thermal conductivity and viscosity

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Peristalsis about nanofluids has a wide range of applications in Biomedicine, Lubrication, Pharmacological Engineering etc. In my talk, I will present the theoretical analysis for the two-dimensional peristaltic flow of water based nanofluid subject to temperature dependent viscosity and thermal conductivity. This analysis will consider the mechanical aspects of the flow along with the heat transfer effects. Reduction of the well-known Navier-Stokes equations subject to the long wavelength and low Reynolds number approximations will be presented. Numerical solutions to the resulting equations will be offered. The physical characteristics namely velocity, pressure gradient, temperature, heat transfer and streamlines will be discussed with the variation of various embedded parameters and illustrated graphically. Key findings of the study will be summarized at the end.

Biography

Fahad Munir Abbasi has completed his PhD in Mathematics from Quaid-I-Azam University Islamabad, Pakistan. His field of expertise include fluid mechanics, biofluid mechanics, nanofluid mechanics and differential equations. He is among motivated young researchers and his articles are published in well reputed international journals of the field

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