

# INTERNATIONAL JOURNAL OF FLUID MECHANICS RESEARCH

## INDEX VOLUME 45, 2018

---

### Page Range of Issues

Issue 1: 1–91; Issue 2: 93–186; Issue 3: 187–282; Issue 4: 283–375; Issue 5: 377–477; Issue 6: 479–577

---

### ISSUE 1

|   |    |
|---|----|
| Effects of Viscosity on Transient Behavior of a Low Specific Speed Centrifugal Pump in Starting and Stopping Periods<br><i>Y.-L. Zhang, Z.-C. Zhu, W.-G. Li, &amp; J.-J. Xiao</i>           | 1  |
| Numerical Modeling of Dam-Break Flow over Erodible Bed by Roe Scheme with an Original Discretization of Source Term<br><i>S. Jelti, M. Mezouari, &amp; M. Boulerhcha</i>                    | 21 |
| Role of Additives and Elevated Temperature on Rheology of Water-Based Drilling Fluid: A Review Paper<br><i>Y. Weikey, S.I. Sinha, &amp; S.K. Dewangan</i>                                   | 37 |
| Dufour–Soret and Thermophoretic Effects on Magnetohydrodynamic Mixed Convection Casson Fluid Flow over a Moving Wedge and Non-Uniform Heat Source/Sink<br><i>S. Jain &amp; R. Choudhary</i> | 51 |
| Influence of Temperature-Dependent Conductivity on Convective Heat Transfer in a Vertical Duct<br><i>J.C. Umavathi</i>  | 75 |

### ISSUE 2

|   |     |
|---|-----|
| Analysis of Non-Fourier Heat-Conduction-Based Lattice Boltzmann Model in Two-Dimensional Plate with a Hot Shaft Passing through it<br><i>A.R. Rahmati &amp; A. Gheibi</i>                     | 93  |
| Pressure Losses for Turbulent Flow through Bends in Series<br><i>B.T. Petersen, J.M. Gorman, &amp; E.M. Sparrow</i>   | 105 |
| Optimum Geometry for Natural Convection Channel Flow with Internal Heated Slats<br><i>C.Y. Wang</i>   | 129 |
| Analysis and Investigation of the Adaptive Technique to Simulate the Synthetic Jet System<br><i>K. Boualem, T. Yahiaoui, &amp; A. Azzi</i>  | 139 |
| Analytical Study of Noncontinuum Flow Impingement onto a Flat Plate with an Arbitrary Angle<br><i>K.R.A. Khasawneh &amp; D. Kharouf</i>   | 153 |
| Starting Flow in an Elliptic Duct<br><i>C.Y. Wang</i>   | 163 |
| Investigation on the Effect of Axially Moving Carbon Nanotube, Nanoflow, and Knudsen Number on the Vibrational Behavior of the System<br><i>S. Oveissi, D. Toghraie, &amp; S.A. Eftekhari</i> | 171 |

### ISSUE 3

|  |     |
|--|-----|
| Different Approaches to Applying POD Analysis to 3D3C Data in a Large Measurement Volume<br><i>R. Wahidi, S.M. Ölçmen, &amp; J.P. Hubner</i>               | 187 |
| Theoretical Investigation of MHD Convection Navier–Stokes Flow over an Unsteady Stretching Sheet<br><i>R.A. Shah, S. Rehman, M. Idrees, &amp; T. Abbas</i> | 203 |
| Effect of Submergence and Flow Rate on Free Surface Vortices in a Pump Sump  | 225 |

*B. Shin*

|   |            |
|---|------------|
| <b>Mixed Convection and Entropy Generation of a Nanofluid Filled Cavity with a Corner Partition and Flexible Wall</b> | <b>237</b> |
| <i>F. Selimefendigil &amp; H.F. Oztop</i>   |            |
| <b>Entrance Length and Friction Factor Correlations for Turbulent Flow in Concentric Annuli</b>                       | <b>255</b> |
| <i>B. Shome</i>   |            |
| <b>Numerical Simulation and Fundamental Characteristics of Surface Flow Generated by Bubbly Flows</b>                 | <b>263</b> |
| <i>H. Abdulmouti</i>  |            |

**ISSUE 4**

|   |            |
|---|------------|
| <b>On Analysis of Squeezing Flow between Rotating Disks with Cross Diffusion Effects under the Influence of Coriolis and Centrifugal Forces</b>                 | <b>283</b> |
| <i>R.A. Shah, A. Khan, &amp; M. Shuaib</i>  |            |
| <b>MHD Mixed Convection Flow of Heat-Generating/Absorbing Fluid in Vertical Concentric Annuli with Time Periodic Boundary Condition: Steady Periodic Regime</b> | <b>301</b> |
| <i>B.K. Jha &amp; B. Aina</i>   |            |
| <b>Mass Transfer Effects on Flow through Porous Medium past an Impulsively Started Infinite Vertical Plate in a Rotating Fluid</b>                              | <b>321</b> |
| <i>R.M. Lahurikar, V.T. Gitte, &amp; P.P. Ubale Patil</i>   |            |
| <b>Numerical Investigation of Effect of Fiber Properties on Through-Plane Permeability of a 3D Fibrous Medium</b>   | <b>339</b> |
| <i>N.K. Palakurthi, S.R. Dungi, U. Ghia, &amp; K. Comer</i>   |            |
| <b>Effect of Variable Viscosity on a Nanofluid over a Porous Wedge</b>  | <b>355</b> |
| <i>R.K. Deka, M. Basumatary, &amp; A. Paul</i>  |            |
| <b>Analytical Solution of MHD Viscous Flow over a Stretching Sheet by Multistage Optimal Homotopy Asymptotic Method</b>   | <b>369</b> |
| <i>M. Fiza, S. Islam, H. Ullah, F. Chohan, &amp; Q. Shah</i>  |            |

**ISSUE 5**

|  |            |
|--|------------|
| <b>Effect of Dimensions of Various Spikes of a Spiked Cylinder on the Buzz Phenomenon Subjected to Hypersonic Flows</b>  | <b>377</b> |
| <i>R. Rajesh &amp; S.G. Rakesh</i>   |            |
| <b>Thermal Instability of Hot Ferrofluid Layer with Temperature-Dependent Viscosity</b>  | <b>389</b> |
| <i>J.S. Dhiman &amp; N. Sharma</i>   |            |
| <b>Estimation of Effective Length along with Flow and Pressure Characteristic Analyses of a Sudden Expansion Diffuser and a Hybrid Diffuser</b>  | <b>399</b> |
| <i>A. Guha, D.K. Mandal, N.K. Manna, &amp; S. Chakrabarti</i>  |            |
| <b>A Numerical Investigation of Slip Flow through Circular Micro-Channel</b>   | <b>413</b> |
| <i>S.K. Singh, V.K. Pal, &amp; K. Debnath</i>  |            |
| <b>Hall Current Effects on Hydromagnetic Flow through Uniform Channel Bounded by Porous Media</b>  | <b>425</b> |
| <i>K. Ramakrishnan</i>   |            |
| <b>Radiation Absorption and Viscous-Dissipation Effects on Magnetohydrodynamic Free-Convective Flow past a Semi-Infinite, Moving, Vertical, Porous Plate</b>   | <b>439</b> |
| <i>K.V.B. Rajakumar, K.S. Balamurugan, &amp; Ch.V. Ramana Murthy</i>   |            |
| <b>Heat and Mass Transfer on Unsteady, Magnetohydrodynamic, Oscillatory Flow of Second-Grade Fluid through a Porous Medium between Two Vertical Plates, under the Influence of Fluctuating Heat Source/Sink, and Chemical Reaction</b> | <b>459</b> |
| <i>M. Veera Krishna, K. Jyothi, &amp; A.J. Chamkha</i>   |            |

## **ISSUE 6**

|   |            |
|---|------------|
| <b>Finite Element Analysis of Rotating Oscillatory Magneto-Conductive Radiative Micropolar Thermo-Solutal Flow</b>  | <b>479</b> |
| <i>M. Shamshuddin, O.A. Bég, &amp; Ali Kadir</i>  |            |
| <b>On Dynamic and Energy Transfer Characteristics of Flow past Transversely Oscillating Circular Cylinder in the Wake of Stationary Cylinder</b>  | <b>509</b> |
| <i>R. Simenthay, V. Raghavan, &amp; S. Tiwari</i>   |            |
| <b>Effect of Height Ratio on Wake Transition in Unsteady Flow past Isosceles Trapezoidal Cylinder</b>   | <b>531</b> |
| <i>G.R. Vamsee, S. Tiwari, T. Sundararajan, &amp; V. Raghavan</i>   |            |
| <b>Thermal Diffusion and Joule-Heating Effects on Magnetohydrodynamic, Free-Conductive, Heat-Absorbing/-Generating, Viscous-Dissipative Newtonian Fluid with Variable Temperature and Concentration</b> | <b>553</b> |
| <i>L. Rama Mohan Reddy, M.C. Raju, P. Chandra Reddy, &amp; G.S.S. Raju</i>  |            |
| <b>Effect of Winglet Variation on UAV Aerodynamic Characteristics</b>   | <b>569</b> |
| <i>F.E.W. Winarto, W. Sakarinto, &amp; S.B. Wibowo</i>  |            |

# INTERNATIONAL JOURNAL OF FLUID MECHANICS RESEARCH

## AUTHOR INDEX VOLUME 45, 2018

### Page Range of Issues

Issue 1: 1–91; Issue 2: 93–186; Issue 3: 187–282; Issue 4: 283–375; Issue 5: 377–477; Issue 6: 479–577

|                        |                           |                        |
|------------------------|---------------------------|------------------------|
| Chandra Reddy, P., 553 | Lahurikar, R.M., 321      | Shamshuddin, M., 479   |
| Chohan, F., 369        | Li, W.-G., 1              | Sharma, N., 389        |
| Choudhary, R., 51      | Mandal, D.K., 399         | Shin, B., 225          |
| Comer, K., 339         | Manna, N.K., 399          | Shome, B., 255         |
| Debnath, K., 413       | Mezouari, M., 21          | Shuaib, M., 283        |
| Deka, R.K., 355        | Ölçmen, S.M., 187         | Simenthys, R., 509     |
| Dewangan, S.K., 37     | Oveissi, S., 171          | Singh, S.K., 413       |
| Dhiman, J.S., 389      | Oztop, H.F., 237          | Sinha, S.J., 37        |
| Dungi, S.R., 339       | Pal, V.K., 413            | Sparrow, E.M., 105     |
| Eftekhari, S.A., 171   | Palakurthi, N.K., 339     | Sundararajan, T., 531  |
| Fiza, M., 369          | Paul, A., 355             | Tiwari, S., 509, 531   |
| Gheibi, A., 93         | Petersen, B.T., 105       | Toghraie, D., 171      |
| Ghia, U., 339          | Raghavan, V., 509, 531    | Ubale Patil, P.P., 321 |
| Gitte, V.T., 321       | Rahmati, A.R., 93         | Ullah, H., 369         |
| Gorman, J.M., 105      | Rajakumar, K.V.B., 439    | Umavathi, J.C., 75     |
| Guha, A., 399          | Rajesh, R., 377           | Vamsee, G.R., 531      |
| Hubner, J.P., 187      | Raju, G.S.S., 553         | Veera Krishna, M., 459 |
| Idrees, M., 203        | Raju, M.C., 553           | Wahidi, R., 187        |
| Islam, S., 369         | Rakesh, S.G., 377         | Wang, C.Y., 129, 163   |
| Jain, S., 51           | Rama Mohan Reddy, L., 553 | Weikey, Y., 37         |
| Jelti, S., 21          | Ramakrishnan, K., 425     | Wibowo, S.B., 569      |
| Jha, B.K., 301         | Ramana Murthy, Ch.V., 439 | Winarto, F.E.W., 569   |
| Jyothi, K., 459        | Rehman, S., 203           | Xiao, J.-J., 1         |
| Kadir, A., 479         | Sakarinto, W., 569        | Yahiaoui, T., 139      |
| Khan, A., 283          | Selimefendigil, F., 237   | Zhang, Y.-L., 1        |
| Kharouf, D., 153       | Shah, Q., 369             | Zhu, Z.-C., 1          |
| Khasawneh, K.R.A., 153 | Shah, R.A., 203, 283      |                        |

# INTERNATIONAL JOURNAL OF FLUID MECHANICS RESEARCH

## SUBJECT INDEX VOLUME 45, 2018

| Page Range of Issues   |  |   |
|--|--|---|
| Issue 1: 1–91; Issue 2: 93–186; Issue 3: 187–282; Issue 4: 283–375; Issue 5: 377–477; Issue 6: 479–577   |  |   |
| <p>2D plate, 93<br/>     2D POD, 187<br/>     3D POD, 187<br/>     advection diffusion, 283<br/>     air-water interface, 225<br/>     apex facing, 531<br/>     average static pressure, 399<br/>     axially moving CNT conveying fluid, 171<br/>     base facing, 531<br/>     bentonite, 37<br/>     bubble flow, 263<br/>     bubble, 263<br/>     buzz, 377<br/>     BVP4c, 283<br/>     centrifugal pump, 1<br/>     CFD, 105<br/>     channel, 129<br/>     chemical reaction, 439<br/>     computational fluid dynamics, 139<br/>     concentric annuli, 255, 301<br/>     coordinate transformation, 531<br/>     Coriolis forces, 321<br/>     corner partition, 237<br/>     critical L/D, 377<br/>     critical Reynolds number, 531<br/>     dam-break flow, 21<br/>     Darcy permeability, 339<br/>     direct simulation Monte Carlo, 153<br/>     divergence and flutter instabilities, 171<br/>     Dufour number, 283<br/>     effective diffuser length, 399<br/>     elliptic duct, 163<br/>     entrance length correlation, 255<br/>     erodible bed, 21<br/>     Eulerian-Lagrangian model, 263<br/>     Falkner-Skan flow, 51<br/>     fiber diameter, 339<br/>     fiber orientation, 339<br/>     fibrous porous media, 339<br/>     field, 301<br/>     finite difference method (FDM), 93, 75<br/>     finite element method, 237<br/>     finite volume method, 21<br/>     flexible wall, 237<br/>     flight efficiency, 569<br/>     flow control, 139<br/>     flow field, 153<br/>     flow optimization, 129</p> | <p>free convection, 129, 553<br/>     free molecular flow, 153<br/>     free surface flow, 203<br/>     free surface vortex, 225<br/>     free surface, 263<br/>     frequency, 377<br/>     friction factor correlation, 255<br/>     Galerkin finite element method, 479<br/>     Galerkin weighted residual method, 171<br/>     Grashof number, 203<br/>     hall current, 425<br/>     HAM, 203, 283<br/>     heat and mass transfer, 459<br/>     heated slats, 129<br/>     heat-generating/absorbing, 301<br/>     Helmholtz, 163<br/>     high-temperature additives, 37<br/>     nanocomposite, 37<br/>     incompressible fluid, 321<br/>     inter-cylinder spacing, 509<br/>     Joule heating, 553<br/>     Knudsen number, 413<br/>     lattice Boltzmann method, 93<br/>     lift and drag, 509<br/>     longitudinal vibration, 171<br/>     low specific speed, 1<br/>     magnetic field, 203<br/>     magnetic number, 389<br/>     mass transfer, 51, 321<br/>     mechanical energy transfer, 509<br/>     MEMS, 413<br/>     mesh deformation, 139<br/>     MHD flow, 425, 459<br/>     MHD viscous flow, 369<br/>     MHD, 51, 439, 553<br/>     micro-channel, 413<br/>     micropolar fluid, 479<br/>     micropump, 129<br/>     microscale modeling, 339<br/>     mixed convection, 301<br/>     MOHAM, 369<br/>     multiphase flow, 263<br/>     multiple regular perturbation law, 439<br/>     nanofluid, 237, 355<br/>     natural convection, 75<br/>     Navier-Stokes equations, 369<br/>     non-Fourier heat conduction, 93<br/>     non-uniform heat source/sink, 51<br/>     numerical analysis, 225</p> | <p>numerical method, 569<br/>     numerical results, 75<br/>     numerical simulation, 105, 263<br/>     oscillation, 377, 479<br/>     oscillatory flows, 459<br/>     oscillatory modes, 389<br/>     pipe bends, 105<br/>     porosity, 339<br/>     porous media, 425<br/>     porous medium, 321, 459, 553<br/>     porous wedge, 355<br/>     pressure losses, 105<br/>     principle of exchange of stabilities, 389<br/>     pulsation, 377<br/>     pump sump, 225<br/>     radiation absorption, 439<br/>     rectangular duct, 75<br/>     Reynolds number, 399<br/>     rheology, 37<br/>     Ritz, 163<br/>     Roe scheme, 21<br/>     secondary flow, 425, 479<br/>     second-grade fluids, 459<br/>     sediment transport, 21<br/>     similarity transformations, 203<br/>     slip condition, 425<br/>     slip flow, 413<br/>     Soret effect, 553<br/>     Soret number, 283<br/>     Soret/Dufour effects, 51<br/>     starting process, 1<br/>     starting, 163<br/>     stopping process, 1<br/>     streamline contour, 399<br/>     Strouhal number, 377<br/>     submergence depth, 225<br/>     surface flow, 263<br/>     temperature-dependent viscosity, 389<br/>     thermal convection, 389<br/>     thermal radiation, 479, 553<br/>     thermocapillary number, 203<br/>     thermophoresis, 51<br/>     thin film, 203<br/>     time periodic boundary condition, 301<br/>     transient performance, 1<br/>     transient, 377<br/>     trapezoidal cylinder, 531<br/>     turbulent flow, 105, 225</p> |

- two inline circular cylinders, 509  
transverse magnetic height ratio, 531  
transversely oscillating downstream cylinder, 509  
UAV, 569  
unsteady stretching surface, 203  
unsteady wake characteristics, 509  
unsteady, 377
- variable conductivity, 75  
variable temperature, 355  
variable viscosity, 355  
vertical plates, 459  
vibrating membrane, 139  
viscosity, 1  
viscous dissipation, 75, 439, 479, 553  
viscous flow, 163
- volumetric PIV, 187  
vortex length, 225  
vorticity, 413  
wake characteristics, 531  
water-based drilling fluid, 37  
wing tip vortex, 569  
winglet, 569

