

## Journal of Fluid Mechanics – list of keywords

### Acoustics

Aeroacoustics  
Hydrodynamic noise  
Jet noise  
Noise control  
Waves in random media

### Aerodynamics

Flow–structure interactions  
High-speed flow

### Biological Fluid Dynamics

Bioconvection  
Biomedical flows  
Blood flow  
Capsule/cell dynamics  
Flow–vessel interactions  
Membranes  
Micro-organism dynamics  
Peristaltic pumping  
Propulsion  
Pulmonary fluid mechanics  
Swimming/flying

### Boundary Layers

Boundary layer control  
Free shear layers  
Pipe flow boundary layer  
Boundary layer receptivity  
Boundary layer separation  
Boundary layer stability  
Boundary layer structure

### Complex Fluids

Colloids  
Dielectrics  
Emulsions  
Foams  
Granular media  
Liquid crystals  
Quantum fluids  
Suspensions

### Compressible Flows

Compressible boundary layers  
Detonation waves  
Gas dynamics  
Shock waves

### Convection

Bénard convection  
Buoyant boundary layers  
Convection in cavities  
Double diffusive convection  
Buoyancy-driven instability  
Marangoni convection

Moist convection

Plumes/thermals  
Convection in porous media  
Taylor–Couette flow

### Drops and Bubbles

Aerosols/atomization  
Boiling  
Breakup/coalescence  
Bubble dynamics  
Cavitation  
Drops  
Electrohydrodynamic effects  
Sonoluminescence  
Thermocapillarity

### Flow Control

Control theory  
Drag reduction  
Instability control  
Mixing enhancement

### Geophysical and Geological Flows

Air/sea interactions  
Atmospheric flows  
Baroclinic flows  
Coastal engineering  
Geodynamo  
Geostrophic turbulence  
Gravity currents  
Hydraulic control  
Ice sheets  
Internal waves  
Magma and lava flow  
Mantle convection  
Meteorology  
Mixing and dispersion  
Ocean circulation  
Ocean processes  
Quasi-geostrophic flows  
River dynamics  
Rotating flows  
Sediment transport  
Sea ice  
Shallow water flows  
Stratified flows  
Topographic effects  
Waves in rotating fluids

### Instability

Absolute/convective instability  
Nonlinear instability  
Parametric instability  
Transition to turbulence

**Interfacial Flows (free surface)**

Capillary flows  
Contact lines  
Fingering instability  
Liquid bridges  
Thin films

**Low-Reynolds-number flows**

Lubrication theory  
Boundary integral methods  
Hele-Shaw flows  
Porous media  
Slender-body theory  
Stokesian dynamics

**Materials Processing Flows**

Coating  
Magnetohydrodynamics  
Microelectronics  
Polymer processing

**Mathematical Foundations**

Computational methods  
General fluid mechanics  
Hamiltonian theory  
Navier–Stokes equations  
Topological fluid dynamics  
Variational methods

**MHD and Electrohydrodynamics**

Dynamo theory  
High-Hartmann-number flows  
Magnetic fluids  
Magneto convection  
MHD turbulence  
Plasmas

**Micro-/Nano-fluid dynamics**

MEMS/NEMS  
Microfluidics  
Non-continuum effects

**Mixing**

Chaotic advection  
Granular mixing  
Turbulent mixing

**Multiphase and Particle-laden Flows**

Alluvial dynamics  
Core–annular flow  
Fluidized beds  
Gas/liquid flow  
Multiphase flow  
Particle/fluid flow  
Reacting multiphase flow

**Non-Newtonian Flows**

Plastic materials  
Polymers  
Rheology  
Viscoelasticity

**Nonlinear Dynamical Systems**

Bifurcation  
Chaos  
Fractals  
Low-dimensional models  
Pattern formation

**Phase change**

Condensation/evaporation  
Icing  
Morphological instability  
Solidification/melting

**Rarefied Gas Flow**

Kinetic theory  
Molecular dynamics

**Reacting Flows**

Combustion  
Detonations  
Flames  
Laminar reacting flows  
Turbulent reacting flows

**Turbulent Flows**

Turbulent boundary layers  
Compressible turbulence  
Turbulence control  
Turbulent convection  
Shear layer turbulence  
Homogeneous turbulence  
Intermittency  
Isotropic turbulence  
Turbulence modelling  
Rotating turbulence  
Turbulence simulation  
Stratified turbulence  
Turbulence theory  
Turbulent transition  
Wave--turbulence interactions

**Vortex Flows**

Vortex breakdown  
Contour dynamics  
Vortex dynamics  
Vortex instability  
Vortex interactions  
Vortex shedding

**Wakes/Jets**

Jets

Separated flows

Shear layers

Vortex streets

Wakes

**Waves/Free-surface Flows**

Capillary waves

Channel flow

Critical layers

Elastic waves

Faraday waves

Hydraulics

Wave scattering

Shear waves

Solitary waves

Surface gravity waves

Wave breaking

Wave–structure interactions

Wind–wave interactions