

Abstract: Geodesic flows of Riemannian or Finsler manifolds have been the only known contact Anosov flows. We show that even in dimension 3 the world of contact Anosov flow is vastly larger via a surgery construction near a transverse Legendrian knot that encompasses the Handel-Thurston surgery and produces flows that are not topologically orbit equivalent to any algebraic flow. This likely includes examples on many hyperbolic 3-manifolds, any of which have a remarkable array of dynamical and geometric properties.