The life of vortex knots and the flow of helicity WILLIAM IRVINE,
University of Chicago — What happens if you take a vortex loop - akin to a smoke
ring in air - and tie it into a knot or a link? The knottiness (Helicity) of a fluid is
a conserved quantity in many idealized situations (such as Euler fluids) offering the
potential for fundamental insights into fluid flow. In real fluids, progress has been
hindered by lack of accessible experimental systems. I will tell of how to make a
vortex knot and link in water, in the wave function of a superfluid (on a computer)
and of what happens thence, with an emphasis on universal aspects of the dynamics
and the flow of helicity.

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