Polyhedral Edge Knots

Carlo H. Séquin (2021): 3D-printed knot strands; 5” diameter.

Mathematical knots can never exhibit the symmetries of the regular or semi-regular polyhedra. But they can still be shaped to convey the look of such polyhedral bodies, if they mostly follow the corresponding wire-frame edges. To pass through all edges at least once, we need to construct a Eulerian circuit on a graph with all nodes of even valence; this can be done by judiciously doubling some of the given edges or simply doubling all of them.