1. Supplemental Figure

Figure S1: Guidance of molecular motion by micro-patterned surfaces. With circular boundaries (yellow line) persistent swirling motions can be induced as exemplified with a time overlay of 10 consecutive images. The blue arrows mark the margin of the active region and the scale bar is 50 µm and the density is set to $\rho = 18 \, \mu m^{-2}$.

2. Video Captions

**Video1:** Emergence of ordered structures in the high density motility assay. The filament density is set to $\rho = 21 \, \mu m^{-2}$, labeling ratio 1:200, 100x objective).

**Video2:** Cluster of coherently moving filaments subjected to fluid flow. ($\rho = 8 \, \mu m^{-2}$, labeling ratio 1:200, 40x objective).

**Video3:** Scattering events of colliding clusters. ($\rho = 14 \, \mu m^{-2}$, labeling ratio 1:200, 40x objective).

**Video4:** Coherently moving cluster of filaments confined to a circular active region with a diameter $D = 600 \mu m$ ($\rho = 16 \, \mu m^{-2}$, labeling ratio 1:320, 40x objective).
Video5: Cluster wall interactions for an intersection angle close to 90° (D = 600µm, ρ = 20 µm⁻², labeling ratio 1:320, 40x objective).