Supplementary Video captions:

Supplementary Video 1: Colloidal strings in the narrow microfluidic channel at a flow rate of 3.0 μL/min. The average diameter of particles is 1.36 μm. The field of view of the video is 128.9 × 96.4 μm^2. The duration of the video is 2 s.

Supplementary Video 2: Colloidal strings in the wide microfluidic channel at a flow rate of 9.0 μL/min. The video was taken at the center of the wide channel. The average diameter of particles is 1.36 μm. The field of view of the video is 96.7 × 128.9 μm^2. The duration of the video is 2 s.

Supplementary Video 3: Kinetics of the formation of a stable particle pair in the wide microfluidic channel at a flow rate of 3.0 μL/min. The field of view of the video is 107.1 × 18.1 μm^2. The duration of the video is 2.31 s.

Supplementary Video 4: Kinetics of the formation of a stable short colloidal strings of three particles in the wide microfluidic channel at a flow rate of 3.0 μL/min. The field of view of the video is 46.6 × 14.8 μm^2. The duration of the video is 7.5 s.

Supplementary Video 5: Kinetics of the formation of a stable short colloidal strings of four particles in the wide microfluidic channel at a flow rate of 3.0 μL/min. The field of view of the video is 46.6 × 14.8 μm^2. The duration of the video is 4 s.

Supplementary Video 6: Colloidal strings in the ITO microfluidic channel under a transverse AC electric field. The average diameter of particles is 1.36 μm. The field of view of the video is 120.2 × 74.9 μm^2. The duration of the video is 1.38 s.