Electronic Supplementary Material (ESI) for Soft Matter.
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Supplementary Figure legends:

Figure S1: Images show photoconverted Dendra2-Histone H3.3 in a single fibroblast in a defined pattern tracked for 2 hours. Scale bar is 10 μm.

Figure S2: Time lapse images at different z-planes of the migrating GFP-Lamin A expressing fibroblast in Figure 3C. Scale bar is 10 μm.

Figure S3: Representative images of the detection of folds, grooves, holes (termed texture) in the nuclear lamina. Images of the lamin A/C immunostained nucleus were taken at the equatorial plane of the nucleus, segmented using a custom algorithm in Matlab and the number of texture pixels in the interior of the nuclear lamina (excluding the nuclear envelope) were quantified and used to calculate a lamin texture percentage.

Movie 1: Movie of an elongated fibroblast expressing GFP-Histone 1.1 widening as it migrated in a 3D collagen gel.
Movie 2: Translation of a fibroblast expressing GFP-Histone 1.1 from a microcontact-printed 1-D fibronectin line to a 2-D fibronectin region.
Movie 3: XZ view reconstructed from Z-stacks of a nucleus expressing GFP- Histone 1.1 translating from a 1-D line to 2-D pattern.
Movie 4: Migration of a fibroblast expressing Dendra-2-Histone H3.3 (Green), photoconverted to red in a defined spot, from the 1-D fibronectin line to the 2-D fibronectin area.
Movie 5: Translation of a fibroblast expressing stably expressing GFP-Lamin A from a 1-D fibronectin line to a 2-D fibronectin area.
Movie 6: Translation of a fibroblast stably expressing GFP-Lamin A from a 2-D fibronectin area to the 1-D line.
Movie 7: Trypsinization of a fibroblast expressing GFP-Histone 1.1 and RFP-actin.