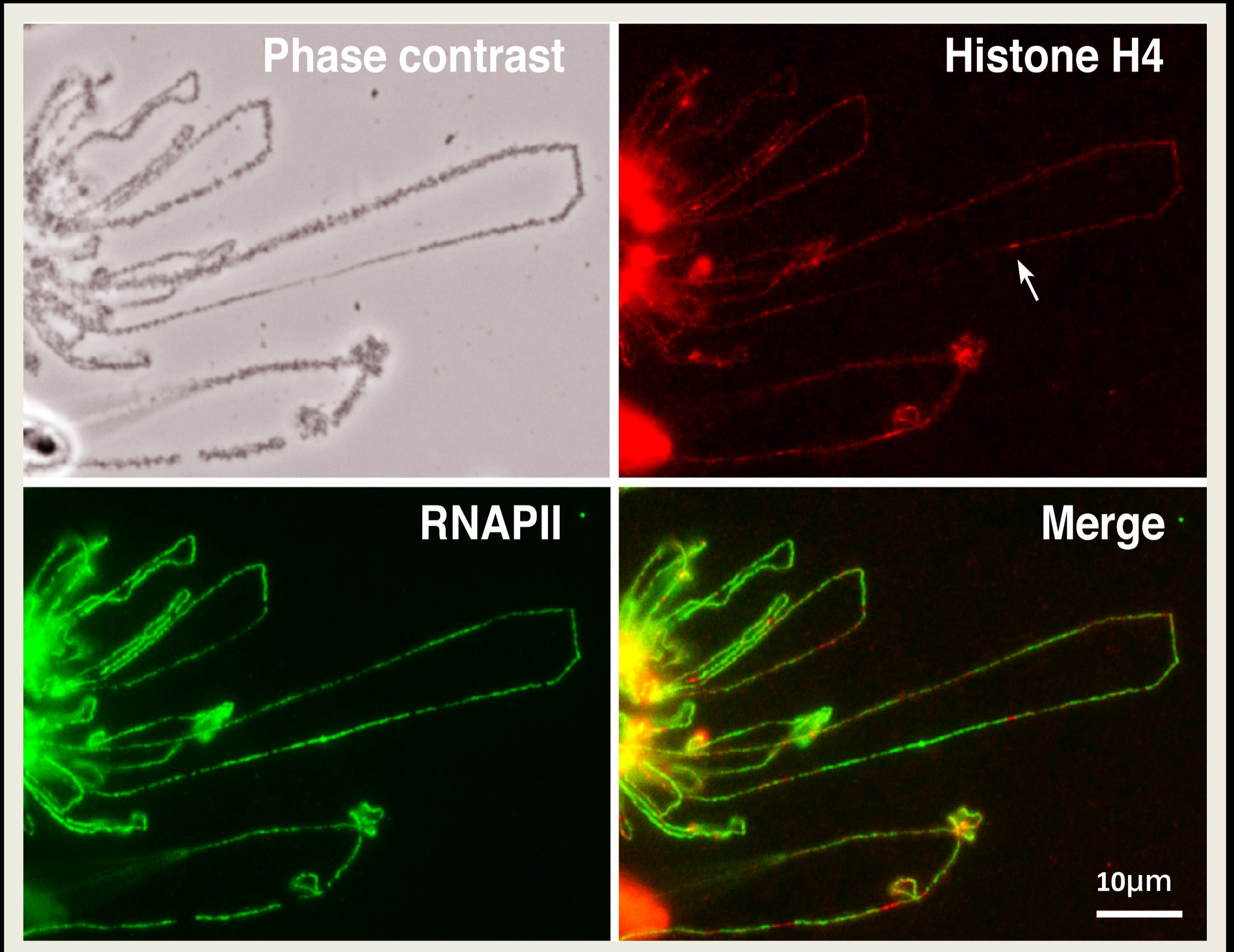


Transcription and the state of chromatin



Most LBC lateral loops correspond to chromatin domains of intense transcriptional activity by RNA polymerase II (green), which is shown here to be present at a high density over the length of each loop axis. The thin-to-thick morphology of the ribonucleoprotein matrix (elongating transcripts packed together with an ensemble of processing factors into RNP fibrils.) is readily visible on most loops by phase contrast microscopy. The very high number of active elongation complexes on the axis of a loop does not prevent the association of histones, however. For instance, newly expressed histone H4 (red) is shown here to associate with loop axes primarily at places of low RNAPII density. The chromatin of a loop is thus almost certainly less compacted than a 10 nm fiber. It also offers the interesting possibility to correlate epigenetic histone marks with RNA transcriptional and processing events.