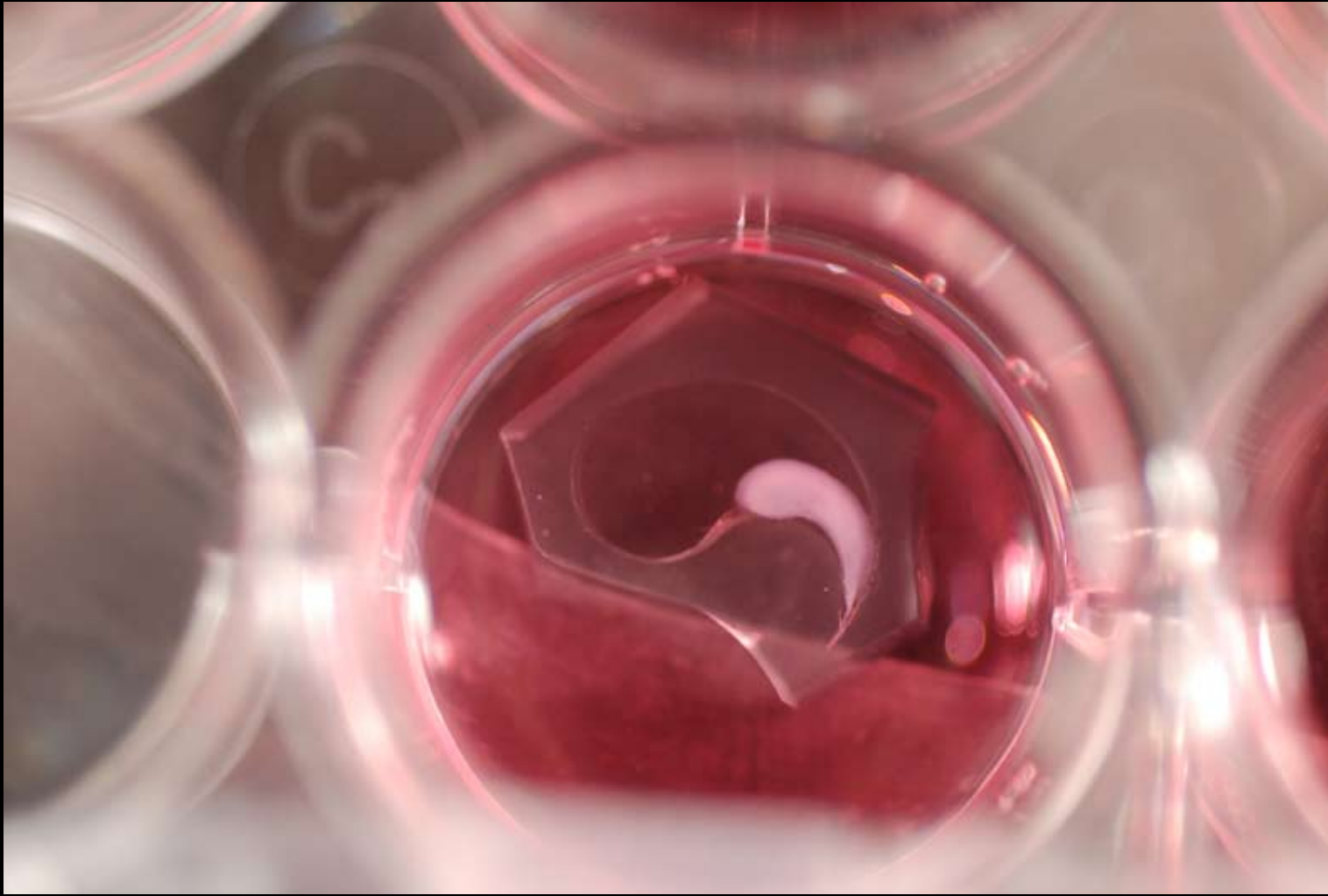


# AT THE EDGE



## A WINNING IMAGE OF HEALING

The journal *Materials Today* selected this image, from NJIT Assistant Professor Raquel Perez-Castillejos, as one of the winners in its 2008 cover competition. Also included in the 2009 *Materials Today* calendar, the image will be on the cover of the December issue. Perez-Castillejos has a joint appointment in the Department of Electrical and Computer Engineering and the Department of Biomedical Engineering. The image is related to her research into the dynamics of wound healing.

Wounds decrease in size during healing through the action of contractile cells (myofibroblasts) at the edges of the wound. But this process is not uniform. The experiment shown was conducted to determine how the shape of a wound affects contraction. Pictured in a tissue culture plate is a 5-millimeter block of the fibrous protein material collagen and fibroblasts – the small white structure shaped like half a Yin-Yang symbol – inside a larger cavity with the same shape.

The block of collagen and cells filled the larger cavity at the beginning of the experiment. After six hours, the fibroblasts had reduced the size of the collagen block dramatically. Better understanding of how a wound's shape affects contraction could result in treatment that promotes faster healing and reduces scarring.