

Abstract Submitted  
for the MAR09 Meeting of  
The American Physical Society

**Pressure Effects on the Morphology of Mammalian Cells** JOHN SCHROEDER, Department of Physics, Applied Physics and Astronomy, Rensselaer Polytechnic Institute, Troy, NY 12180, CHARLES R. KEESE, Appliedbiophysics Inc., 185 Jordan Rd., Troy, NY 12180Ivar, IVAR GIAEVER, Applied Biophysics Inc, 185 Jordan RD Try, NY 12180 — Living mammalian cells can be perturbed by high pressure in a continuous and controlled manner. The effects can be easily measured and quantified using the well-established method of Electric Cell-substrate Impedance Sensing (ECIS). ECIS is an electrical biosensor that quantitatively monitors behaviours of living cells including spreading and adhesion, micromotion and migration. Here we describe the experimental set-up of the pressure equipment and how ECIS is adapted to data collection under these conditions. Preliminary results suggest that high pressure affects the cell attachment and spreading and causes well-attached cells to round up. Results will be presented on the behavior of monolayers of BSC-1 cells upon application of pressures up to 2 kbars of nitrogen gas..

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Date submitted: 01 Dec 2008

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