

Julia Gorelik is Professor of Cellular Biophysics, within the Cardiovascular Science Division at the National Heart and Lung Institute, Imperial College London. She is working in the interface between biophysics and cardiovascular research, developing a new high resolution microscopic technique that is suitable for studying living cells - Scanning Ion Conductance Microscopy (SICM) for cardio biology. Professor Gorelik has a long-standing interest in the heart, which led her to develop the SICM to measure contraction, rhythm and calcium dynamics of cardiomyocytes simultaneously, allowing the study arrhythmias and heart failure conditions on cultured heart cells. She built a SICM microscope combined it with fluorescence resonance energy transfer (FRET) technique for study spatial distribution of beta-adrenoreceptors on the surface of the cardiomyocytes. She is perfecting ion channel recordings from defined nanodomains on the surface of cardiomyocytes. She studies local translation of key proteins in cardiomyocytes. Professor Gorelik is a scientist with an extensive network of collaborators.