On the index of the critical Moebius band in the 4-ball.

Vladimir Medvedev
Higher School of Economics

In this talk I will show that the Morse index of the critical Moebius band in the 4-dimensional Euclidean ball equals 5. This result makes use of the quartic Hopf differential technique and a comparison theorem between the index of a free boundary minimal surface in the Euclidean ball and its spectral index. The latter also enables us to reprove a well-known result that the index of the critical catenoid in the 3-ball equals 4. These results are obtained in my paper in progress.