

Małgorzata Seredyńska obituary

Małgorzata Seredyńska, a member of the ISIMM, passed away at the age of 65 in Warsaw on Jan. 10, 2016.

She was a very gifted scientist and a warm, friendly and modest human being. Her papers brought new mathematical insights in mechanics of affinely rigid bodies and in continuum mechanics.

Her PhD thesis on "Nonlinear oscillations of affinely rigid bodies" (Warszawa, 1979) received a honorable mention. She then published several papers on Lie-Poisson equations including applications in elasticity.

Her interest in continuum mechanics dates back to the early 1980's, when we published a joint paper on the complementary energy principle in elasticity. She will also be remembered for our joint work on ray-theoretic methods in seismology and on an asymptotic theory of diffraction, in which we used the mathematical theory of singularities of symplectic mappings. We then worked for many years on linear and non-linear viscoelasticity and on viscoelastic wave propagation. Our theory was based on the assumption that the relaxation modulus is completely monotonic and the creep compliance is a Bernstein function. This assumption was significantly relaxed in our paper on dielectric relaxation functions, using new mathematical ideas. New mathematical concepts allowed us to study the analytic properties of the wavenumber function in linear viscoelastic media and the related questions of regularity of viscoelastic Green's functions at wavefronts.

She also published papers chaos in nonlinear dynamic systems of fractional order.

She suffered from an ischemic stroke in Jan. 2014, from which she fully recovered, but a second powerful ischemic stroke on Dec. 7 last year left her unconscious until her untimely death.