

SUMMER SEMESTER 2026

RTG 2756 CYTAC SEMINAR SERIES

TUESDAY, JUNE 30

17:00 IN HS5

CYTAC

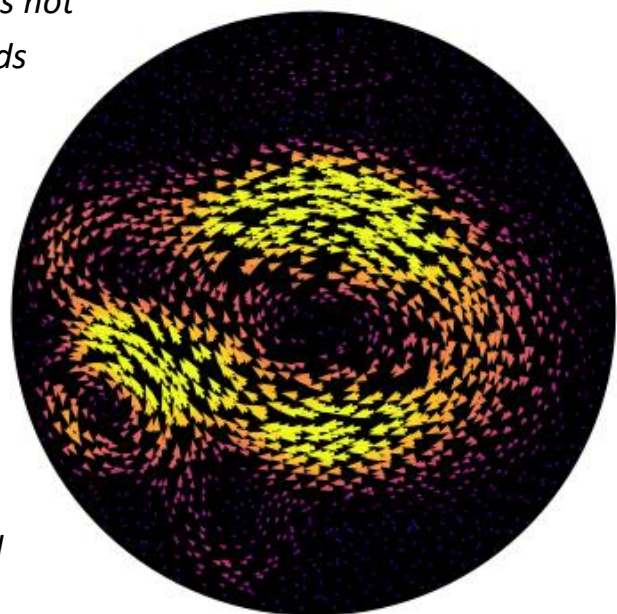
RTG 2756

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APPLIED INVERSE PROBLEMS IN PHYSICS

In many experiments in the natural sciences, we aim at gathering information on a quantity that cannot be observed directly, whereas its impact on another quantity can be measured. Generally speaking, we then have to reconstruct the cause from measurements of its impact. The evaluation of indirect data requires the solution of inverse problems. Such mathematical problems are often ill-posed, which means that even small noise in the data can lead to unacceptable errors in the reconstruction if the noise is not appropriately compensated. This depends largely on the mathematical model, which describes the relation between the quantity of interest and the measured data. The aim of this talk is to give an overview on the mathematical basics of inverse problems and discuss applications from physics, in particular from biophysics and computerized tomography.



*Reconstruction of forces in active actomyosin droplets
(simulation by Emily Klass).*