## Yukihiko Nakata

BCAM-BASQUE CENTER FOR APPLIED MATHEMATICS

e-mail: nakata@bcamath.org

Philipp Getto

BCAM-BASQUE CENTER FOR APPLIED MATHEMATICS

e-mail: getto@bcamath.org

## Analysis of a characteristic equation for a Delay Equation from cell population dynamics

We present Delay Equations describing age-structured cell population dynamics where the cell population is divided into proliferative and quiescent cells. We derived a characteristic equation for an interior equilibrium and analyzed the model in the framework of [1, 2]. We will show how to use the characteristic equation to determine stability boundaries for the interior equilibrium in two-parameter space.

## References

- [1] O. Diekmann, S.A. van Gils, S.M.V. Lunel, H.O. Walther (1995) Delay equations: functional, complex, and nonlinear analysis, vol 110 of Applied Mathematical Sciences. Springer-Verlag
- [2] O. Diekmann, Ph. Getto, M. Gyllenberg (2007) Stability and bifurcation analysis of Volterra functional equations in the light of suns and stars. SIAM J Math Anal 39:1023-1069