ALPEN-ADRIA UNIVERSITÄT KLAGENFURT

INVITATION TO A GUEST LECTURE

About the dynamics of a SIS model without vertical transmission

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Chaired by Christian Pötzsche | Department of Mathematics

Monday, 20 June 2022 | 14:00–15:00

Z.0.01

ABSTRACT

The purpose of this lecture is to propose a SIS model and to carry out qualitative investigations on it. It is shown that the proposed model is biologically well-posed and that the global dynamics are entirely determined by the basic reproduction number R_0. If $R_0 < 1$, then the disease-free equilibrium is globally asymptotically stable: the disease dies out. At $R_0 = 1$, a transcritical branching takes place: a new (endemic) equilibrium arises, whose global asymptotic stability is proved with the help of the Poincaré criterion.

This is a joint work with Szilvia György

We hope to see you there!