**Department of Mathematics**
**University of Delhi**
**South Campus Colloquium Lectures in Mathematics**

**You are cordially invited to a lecture**

**by**



**Prof. Dr. Ralph Chill**
**Dresden University of Technology**

**On**
**Lyapunov Couples for Semigroups**

**3.00 pm    Monday, 23rd March 2026**

**Venue:**
**Seminar Room 317, Arts Faculty,**
**University of Delhi South Campus**

**Abstract.** Lyapunov functions are a common tool in the qualitative theory of ordinary differential equations or dynamical systems, for example when one wants to study asymptotic behavior of solutions. Lyapunov couples are perhaps less common but also classical: in addition to a Lyapunov function, a second function measures the rate of decay. We review this theory for linear $C_0-$semigroups and for nonlinear semigroups.

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