



# CSC Seminar

## SPEAKER

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## TITLE

**Projection methods for solving large-scale algebraic differential Riccati equations**

## ABSTRACT

We consider the numerical solution of large-scale, symmetric differential matrix Riccati equations (DRE). Under certain hypotheses on the data, projection methods have recently arisen as a promising class of solution strategies, to form a low-rank approximation of the solution. Existing approaches in this class consider polynomial or extended Krylov subspaces as approximation space. We extend on these ideas, by projecting onto the more general rational Krylov subspace. We discuss several crucial issues such as the numerical treatment of the projected (reduced) differential equation, and reliable stopping criteria. We illustrate our findings with numerical experiments on benchmark problems.

Tuesday, February 12, 2019 at 2 pm  
Seminar room Prigogine V0.05-2+3