



# CSC Seminar

## SPEAKER

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## TITLE

**Model Reduction of Differential-Algebraic Systems by Parameter-Dependent Balanced Truncation**

## ABSTRACT

In this talk we will deal with the application of balanced truncation for parameter-dependent differential-algebraic systems. For this, we have to solve parameter-dependent Lyapunov equations. Since solving large-scale Lyapunov equations for every parameter leads to very high computational costs we utilize the reduced-basis method to get a reduced Lyapunov equation that we can solve instead. In order to use this method, we first make the system strictly dissipative to apply error estimators in the reduced basis method. Additionally, we have to deal with the algebraic parts of the system by using projections that lead to ordinary differential equations.

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